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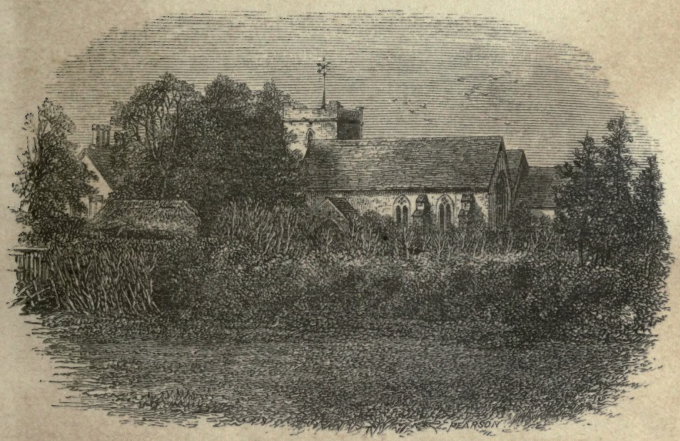
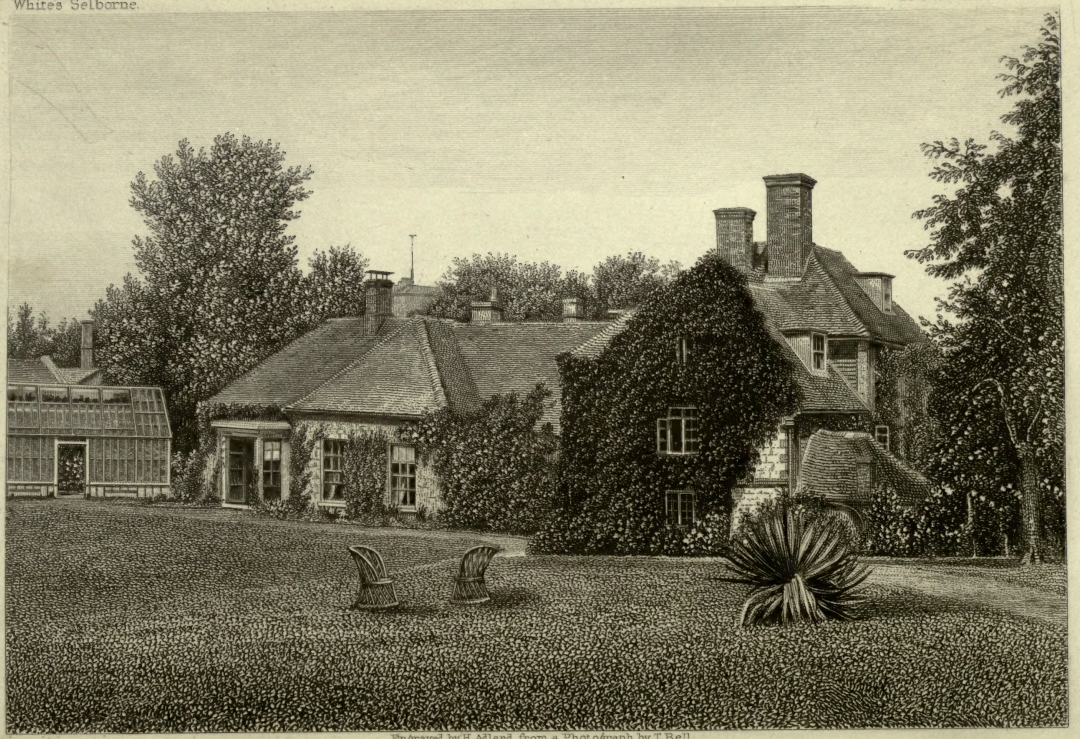
THE
NATURAL HISTORY AND ANTIQUITIES
OF
SELBORNE.



SOUTH VIEW OF THE CHURCH,
with Yew and Vicarage.



Engraved by H. Adlard, from a Photograph by T. Bell.

Garden View of Gilbert White's House.

THE

NATURAL HISTORY AND ANTIQUITIES

OF

SELBORNE,

IN THE COUNTY OF SOUTHAMPTON.

BY THE LATE

REV. GILBERT WHITE,

FORMERLY FELLOW OF ORIEL COLLEGE, OXFORD.

EDITED BY

THOMAS BELL, F.R.S., F.L.S., F.G.S., &c.,

PROFESSOR OF ZOOLOGY IN KING'S COLLEGE, LONDON.

VOLUME I.

NATURAL HISTORY, ANTIQUITIES,
NATURALIST'S CALENDAR,
OBSERVATIONS ON VARIOUS PARTS OF NATURE, AND POEMS.

LONDON:
JOHN VAN VOORST, 1 PATERNOSTER ROW.
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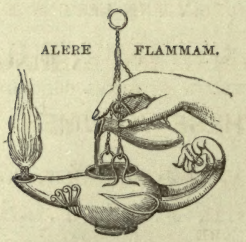

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TO

THE RIGHT HONOURABLE

LORD SELBORNE, F.R.S.,

FROM WHOSE LARGE AND JUDICIOUS BENEFICENCE

THE PARISH WITH WHICH HE IS CONNECTED

BY TITLE AND RESIDENCE

HAS DERIVED SIGNAL AND LASTING ADVANTAGE,

THESE VOLUMES,

ENRICHED BY VALUABLE CONTRIBUTIONS FROM HIMSELF,

ARE INSCRIBED BY

THE EDITOR,

IN TOKEN OF SINCERE AND DEEP RESPECT

FOR HIS PUBLIC SERVICES AND HIS PRIVATE WORTH,

AND IN GRATEFUL ACKNOWLEDGMENT OF

MUCH PERSONAL KINDNESS.

M359243

LIST OF ILLUSTRATIONS

IN VOL. I.

South View of the Church, with Yew and Vicarage. *Half-title*

Garden View of Gilbert White's House, with the Bay Window and Library added by the present owner . . . . . *Frontispiece*

Greek and Latin Quotations, and Author's signature . . . . . *Page* xi

Ostrea carinata. (See page 7 and note.) . . . . . *Page* xv

Wych Elm. (See note at page 5.) . . . . . *Page* lix

Cottage at Dorton. The Lythe was one of White's favourite evening walks . . . . . *Page* 72

Seal of the Priory . . . . . *Page* 275

The Plestor. . . . . *Page* 310

CORRIGENDUM.

In the Editor's footnotes to the first Volume, wherever the word "Appendix" occurs, the words "Volume II." must be substituted.

PREFACE.

THE principal object of the Editor, in the notes which he has appended to the natural history in the present edition, has not been to treat at large on the general history of the various objects referred to, which would be wholly superfluous at the present time, when a knowledge of every branch of British natural science is so readily accessible, but rather to render as correct and complete as lay in his power the text of Gilbert White, with such additions and modifications as have been observed in the district since the first publication of his work—in short, Gilbert White and Selborne.

In fulfilling this object, the Editor has carefully culled many local illustrations from those editions which have emanated from men of scientific authority, as the Rev. Leonard Jenyns (now Blomfield), the late Sir William Jardine, and especially from one whom he was privileged to call his intimate friend, the late Edward Turner Bennett, who, for the purpose of rendering the notes to his edition as far as possible exhaustive of his subject, paid a visit to the place, and, with his brother and another friend, perambulated the district. The result of his perambulations, however, could not, necessarily, bear so much upon the zoology and botany of the neighbourhood as upon its scenery and geography, its physical conditions, its social

character, and such other circumstances of the locality as are not liable to periodical change. The lamented death of this most estimable person took place just as the printing of his edition was nearly completed; and it was left for my late friend, John Joseph Bennett, Esq., to finish it by a touching memorial to his brother in the form of a preface to the work. Much additional value attached to Mr. Bennett's original edition from the cooperation of his friends Owen, Yarrell, and other naturalists, whose contributions on the general subject are of considerable interest and importance.

But, however valuable in themselves are the notes referred to, and those of some other annotators, their immediate relation to the local natural history of Selborne has been comparatively slight; and for this especial object the present Editor has had to depend principally upon the results of his own observations during a period of more than thirty years, in which he has been the occupier of the old property, and where, for nearly half that period, he has wholly resided. He has also received frequent aid from those of his scientific friends who have honoured him with their occasional visits and communications. His frequent botanical rambles with his late nephew, Dr. Bell Salter, of Ryde, and the contributions to the Selborne flora of his late friend Dr. Bromfield, contained in his consecutive papers on the plants of Hampshire, which appeared in the 'Phytologist' (vol. ii. *et seq.*), and with whom he shared many pleasant walks in pursuit of his favourite object, have furnished much of the information he has been able to give respecting

To face Page XI. Vol. 1.

The

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J

Τρηχεῖ, ἀλλ' ἀγα
Ἧς γαίης δυναμα

Tota denique rost
fidelis, & simplex, &

Omnia bene descr
facta, aut Naturæ c
opus est non unius h
Faunæ & Floræ uti
præstantissimi.

Selborne: January 1

Natural History
of Selborne
County of
Southampton.

Ἡ κβροτροφος· ὅτι ἐγωγε
γλυκερωτερον ἀλλο ἰδεσθαι.
Homer. Odyss.

a illa aspera, & morbuosa, &,
Austria suorum regio.
Cicero Orat. pro Cn. Marcio

ere, quæ in hoc mundo a Deo
abæ viribus elaborata fuerunt,
minis, hæc unius ævi. Hinc
ssimæ; hinc Monographi

Scopoli annus secundus.
Gil: White.
1788.

the habitat of the rarer or more noteworthy plants of the district; and he has also to record his sincere thanks to Lord Selborne, to William Wickham, Esq., of Binsted Wyck, to Mrs. de Jersey, of Empshott Vicarage, and others, for notices of many of the plants passed over by former observers, which have been found by them in the neighbourhood.

For a valuable notice of the geology of the district, he is indebted to his friend William Curtis, Esq., of Alton, who has for many years made the geology of the neighbourhood his particular study.

A most important addition to the antiquities of Selborne in the present edition is a chapter by Lord Selborne containing a description and catalogue of an immense collection of Roman coins found on his estate, and for which the Editor begs to express his most grateful thanks. The reader is referred to the communication itself for all the details connected with the discovery of this treasure, which amounted in number to considerably more than 30,000. Some additional interest on this subject arises from a letter addressed to Gilbert White from a Mr. Sewell, of Headley, dated 1777, giving an account of a considerable number of Roman coins found in Wolmer pond some time before that date. This letter, for which I am indebted to Mr. Algernon Holt White, contains also some ingenious speculations respecting the movements of the Roman army, a presumed Roman establishment at Wolmer, &c. The letter itself will be found in the Appendix to the second volume. Many other beautiful and precious Roman remains have been found

by Lord Selborne in the same locality, which are described in his lordship's paper.

The Editor's especial thanks are due to his friend Professor Newton for his kind contribution of many very valuable notes and suggestions, the value of which will be readily appreciated by all who are acquainted with his extensive knowledge of every branch of natural science, and particularly that which formed the favourite pursuit of Gilbert White.

Perhaps the most interesting addition which the Editor is enabled to offer with especial reference to Gilbert White personally, consists of a large number of original letters, which have been placed at his disposal by different members of the family and by the representatives of his other correspondents. In particular he has to acknowledge his deep obligations to Algernon Holt White, Esq., of Clements Hall, in Essex, the son of Gilbert White's nephew, Thomas Holt White; to the late James Field, Esq., who married the daughter of another nephew, the Rev. Edmund White, vicar of the adjoining parish of Newton Valence, and whose son, the Rev. Edmund Field, of Lancing College, Sussex, has most kindly followed up his father's liberality and assistance.

Among the relics thus unreservedly committed to the Editor's use are the long correspondence with Gilbert White's brother, the Rev. John White, who was for a considerable time the English chaplain at Gibraltar, and afterwards vicar of Blackburn in Lancashire. He was a correspondent of Linnæus, six of his letters to whom will, by the kind permission of the Council of the Lin-

nean Society, be found among the correspondence now published, and four unpublished letters from Linnæus to John White. Scarcely inferior in interest to the above-mentioned letters are a considerable number addressed to his brother-in-law, Thomas Barker, Esq., of Lyndon Hall, in the county of Rutland, a distinguished scholar, critic, and naturalist of his day, and to that gentleman's son, Samuel Barker, to whom many of his uncle's very pleasing letters on literary and scientific subjects are addressed. Several letters to other branches of his family will be found to possess considerable interest as illustrative of the benevolence of his character and the terms of affectionate intercourse which subsisted between him and his relatives. Among the valuable contributions entrusted to the Editor by Mr. Algernon White are the original letters to Pennant, which form the bulk of the first portion of the Natural History, and which formerly belonged to the late Rev. Glyd White.

The letters from Gilbert White to his friend the Rev. R. Churton, of Brasen-nose College, were communicated to the Editor by his son, the Rev. Thomas Churton, also Fellow of Brasen-nose, and late rector of West Shefford, in Berkshire. These letters, written in the same agreeable style as characterizes his epistolary compositions in general, supplemented as they now are by numerous letters from Mr. Churton to him, which were found amongst his miscellaneous correspondence, exhibit in a pleasing manner, by the increasing familiarity and warmth of expression, the growth of a friendship which lasted till death.

A very extensive and important change has, within these few years, taken place in the parish of Selborne. In consequence of the purchase of a large portion of the parish by Lord Selborne, then Sir Roundell Palmer, a proposal was made by him to Magdalen College "to form a church-district comprising Blackmoor, Eveley, Oakwoods, and Oakhanger, and to build and endow, at his own expense, a church and parsonage for the same."

This proposal has been fully carried out. The old parish of Selborne is now divided according to the above plan, and the new parish of Blackmoor is, to all ecclesiastical purposes, distinct from that of Selborne proper. Lord Selborne has, with great munificence, built at his own expense a noble church, a most commodious parsonage, and large schools, and endowed the living with the proceeds of certain lands in the parish of Selborne. The blessing of this arrangement is incalculable. A very considerable portion of the old parish was at such a distance from the church and the schools as practically to preclude its inhabitants from all the advantages of education and of public worship. A convenient school-chapel has also been built in the hamlet of Oakhanger, on a site given by the Hon. John Dutton.

Some allusion may perhaps be expected to the long delay which has occurred in the publication of this edition since it was first announced. For this the Editor has to express his sincere regret, which, however, would be more painful were it not for the consideration that many of the most interesting documents

by which it is distinguished have only recently come into his hands. He commits his work to the judgment of the numerous admirers of his author, happy if he prove the humble means of rendering the personal character of Gilbert White more intimately appreciated, and bringing home more closely, to the hearts and sympathies of those who have hitherto known him only as an author, a man whose social and moral qualities will not disappoint the most ardent admirers of his published work.

T. B.

OSTREA CARINATA.

MEMOIR.

THERE are few, perhaps, who have so extensively and so pleasantly occupied the mind of contemporaries and of posterity, and yet have left such scanty materials for a biography of corresponding interest, as the estimable and accomplished author of the 'Natural History and Antiquities of Selborne.'

Born in a remote and, at that time, unknown village, to which his fascinating pen has since given fame, educated to a profession the tendency of which is to encourage rather than to repress that love of retirement from the busy world which was his choice, alike from natural inclination and from the contingent circumstances of his life, modest in his self-estimation, temperate and unambitious in his wishes, and withal endowed with a classical and cultivated taste and a love of nature as pure as it was intense—possessed, too, of a competency sufficient for all the needful comforts of an elegant retirement, it is scarcely matter of surprise that Gilbert White should, on the termination of his career at the University, have sought at once the retreat with which his earliest recollections were associated, and where he might in quiet indulge those pursuits the cultivation of which could involve none of the changes and adventures to which biography ordinarily owes its interest and its charm.

That he was born in an obscure spot in Hampshire, that he received and profited by the customary education of a gentleman and clergyman, that he passed the

greater part of his life in the retirement of his native village (the uniformity of his habits varied only by occasional visits to his friends), that he published an account of the natural history and antiquities of the place of his residence, and died there at a good old age —these are the meagre outlines of a life which no lights and shadows can elaborate into such a picture as would satisfy the curiosity of the numbers who have dwelt upon his writings with delight, and who naturally long for some characteristic traits of his mind and habits. The Editor of the present impression of his works therefore, in endeavouring to furnish some memorials of his author, feels that he lies under a disadvantage which no diligence can obviate and no ingenuity can conceal, while the 'Annals of the Parish' in which it is his own pleasant lot to reside afford but scanty materials to aid him in his facts.

But if the tranquil flow of a contemplative life, unbroken by startling incident and unvaried by travel, fail to interest the feelings or to satisfy the cravings of a sensational and restless age, it may yet be useful to show by such an example that the love of nature and its pure and holy study may not only be consistent with, but may itself be the cause of a true and enduring happiness which the excitement and turmoil of debated theories, and the gratification of personal ambition, even in pursuits important and praiseworthy in themselves, have no power to confer.

Nor is it a necessary concomitant of such a life of quiet, that it should be one of indolence and seclusion, or inconsistent with the most cheerful association with the world of intellect and learning. It appears, on the contrary, that, wholly independent of his assumption of

the character of author, Gilbert White had acquired and kept up a close and friendly communion with men who had distinguished themselves in the cultivation of literature and science, and that not only in his correspondence, but in personal intercourse, such an association formed a considerable element in the happiness of his life. In the whole tenour of his well-known work, in the few existing records of his own life, and no less in his private letters, will be found the same unambitious and gentle tone, combined, however, with a degree of decision and solid judgment which effectually prove that intercourse with the great world is not required to elevate or strengthen the character.

The following passages from a very brief unpublished memoir of him by his nephew, the Rev. Edmund White, who, for the last nine years of his uncle's life, was vicar of the contiguous parish of Newton Valence, and who probably knew him more intimately than any other person, will be read with interest, as affording a close insight into his character, attested by one who, from his boyhood, was the object of his constant care and affection.

"His kind, admonitory letters to me when I first went to the university, which were continued during my residence in college, made the first impression on my mind of his kindness of heart, and of his pure Christian and religious principles, and prepared me to enjoy with more than common satisfaction the good fortune which befell me upon my quitting college, of residing upon my living, which is the adjoining parish to Selborne. This circumstance I have always regarded as a most fortunate event in my life, as it led me to the closest intimacy and friendship with a man whose conversation was always enter-

taining and instructive. . . . . Added to a naturally cheerful manner (though formal at the first introduction), he possessed a most insinuating address, and left in the minds of those with whom he had conversed a pleasing recollection of him; for he had the peculiar faculty of attaching to him all of every age, particularly young people, who listened with delight to his instructive tales; nor did they ever forget his expressive eye and his look of complacency.

"If I were called upon to say in what point he particularly excelled, I think I should say it was his mode of addressing his poor neighbours; his kind philanthropy and his charitable wishes towards them ever made him intimate with their wants, and his humane inquiries always made them feel that he was their true friend."

Such is the simple testimony of one who knew and loved him; and it has been amply confirmed by many now passed away, but who, in years gone by, gave assurance of their own personal experience of the beneficence of his heart and conduct. The relative above quoted adds, "To those who were intimately acquainted with him, a pleasing vein of humour showed itself frequently in conversation." This, too, is conspicuous in many anecdotes of his life, as well as in his private letters.

Gilbert White was born at Selborne on the 18th of July, 1720. He was the eldest son of John White, of that place, and of Anne, daughter of the Rev. Thomas Holt, rector of Streatham, in the county of Surrey. That his descent, both on his father's and mother's side, from a highly respectable ancestry was not a matter of indifference to him is evinced by the following detail, which was copied from his own autograph, formerly in

the possession of his nephew, Samuel Barker, Esq., of Lyndon Hall, in the county of Rutland.

"The family of the Whites (our family) were in possession of an estate called Swan Hall, in the Tything of Haley, parish of Witney, Oxon, as long ago as the reign of Queen Elizabeth; the mansion of Swan Hall is still standing. In the map of Oxfordshire bound up with Hatt's history of that county are the arms of the Whites of Swan Hall, the same that we bear. We are lineally descended from Sir Samson White, my great-grandfather being the fourth son, born 1607, whose father was possessed of Swan Hall. This estate, by a female line, went into the family of the Ashfords, who sold it.

"Thomas Holt, father of Anne Holt, afterwards wife of John White (my father), was born at Petersfield, in the county of Southampton. He was first Demy of Magd. Coll. Oxford, but never Fellow. Afterwards preferred by Mrs. Howland, his relation, and mother of the Duchess of Bedford, to the rectory of Streatham, Surrey, where he died in 1710, and was buried there. He married Anne, daughter of Mr. Benj. Hyde, of Chichester, a Russia merchant. The father of that Benj. Hyde was also a Russia merchant, and, according to the custom of the times, traded personally to those parts, being called merchant adventurers. They went particularly to the White Sea. There are portraits of each; that of the father in my possession at Selborne, and that of the son at my brother's, Mr. Benjamin White, of South Lambeth. The above mentioned Anne Holt, wife of John White, was born at Streatham, Nov. 1693, and died at Selborne, Nov. 1739.

"(Signed) Gil. White."

The portrait above mentioned of the younger Benja-

min Hyde has been for some years my property. It is that of a well-looking man under middle age. In the back of the picture appears the sea, and there are other indications of his profession. This person was the father of Anne Holt's mother, therefore Gilbert White's great-grandfather. These Hydes were connected with Lord Clarendon's family. The elder of the two Benjamin Hydes mentioned above was Governor of Carisbrook Castle during the imprisonment of Charles I. in that fortress, and appears to have won the good opinion of the captive king by his kindness, as is evident from the following note, which I transcribe from a fly-leaf of the late Mr. Field's copy of the second quarto edition of the 'Selborne':—

"Copy of an original paper in the possession of the Rev. Samson White, Maidford, Northamptonshire, containing the blue ribbon given by Charles I. to Benjamin Hyde, Governor of Carisbrook Castle,—'This was the original George ribbon of King Charles I., and given to Mr. Benjamin Hyde, when the king was prisoner in the Isle of Wight, and kept in memory of that good king.'"

The first of the family who ever resided at Selborne was the Rev. Gilbert White, who was vicar of the parish, and was a Fellow of Magdalen College, Oxford, of which he was also, at one period, Vice-President. He was the grandfather and godfather of the naturalist. His grandfather was Sir Samson White, of Swan Hall. There is no reason to suppose that the father of Gilbert was ever the possessor of the estate at Selborne. The Rev. Charles White married Elizabeth, daughter of the vicar, as appears in the church register of Selborne, in January 1730, and she died in 1753. Her husband died in March 1763. He was the rector of Bradley and vicar

of Swarraton, of which his nephew Gilbert was curate. The "Wakes" at Selborne was left to Gilbert by his uncle Charles. Of the elder Gilbert I possess a remarkably well-painted portrait, taken when he was 75 years old. It represents a fine old man, having the full-bottomed wig of the period. He died in February 1727, aged 77, and his widow, Rebecca, in January 1755, at the advanced age of 91. Their son John, Gilbert's father, was married to Anne Holt, daughter of the Rev. Thomas Holt, of Streatham, in the county of Surrey, at the parish church of Rogate, in Sussex, on the 29th of September, 1719; and on the 18th of the following July, Gilbert was born at Selborne. It is certain that they left Selborne as a residence very soon after; for we find that the next child, John, was born in September 1721 at Compton, near Guildford, in Surrey, and died there when less than three months old; and every subsequent child, up to the year 1727, was born at the same place. Francis, the sixth son, was born at Harting, in the county of Sussex, in March 1729, after which they returned to Selborne, where the youngest two children, Anne and Henry, were born, the former in 1731, and the latter in 1733. From this time, when Gilbert was about 13 years old, it appears that they resided in the old house, and that both the mother and father died there, the latter in October 1758, at the age of 71.

Gilbert White's mother, who died in December 1739, at the age of 46, had a family of seven sons and four daughters. The eldest of the family was Gilbert. After him came one son and two daughters, who all died in their early infancy. Then Thomas Holt, Benjamin, Rebecca (married to Mr. Henry Woods, grandfather of the Rev. G. H. Woods, of Shopwyke House, near Chichester),

John (rector of Blackburn), Francis, Anne (married to Thomas Barker), and Henry (rector of Fyfield).

Thomas Holt, the second of the sons who survived their infancy, was born Oct. 15, 1724. He was successful in trade, and retired with an ample fortune to follow his favourite pursuits of natural and physical science. He was elected a Fellow of the Royal Society in January 1777, and was admitted the same year. He communicated several papers to the Society in conjunction with his brother-in-law, Thomas Barker, Esq., and "was the author of numerous essays in the 'Gentleman's Magazine' between 1780 and 1790, under the signature of T. H. W. Among these, a series of articles on the trees of Great Britain are particularly worthy of notice for the extensive information, good taste, and variety of reading which they display." I cannot refuse to transfer to this notice the interesting account of the son of this gentleman from Mr. Bennett's preface:—"His mantle has descended upon his son, Thomas Holt White, Esq., of Enfield, in Middlesex. In the 'Notes on Shakspeare,' in which the father sometimes indulged, we find the same spirit which induced the son to inscribe his name on the list of commentators in the variorum Shakspeare of Isaac Reed; and in his 'Vindication of Milton from the Censure of Dr. Johnson' is contained the germ of the vigorous and masterly 'Review of Johnson's Criticisms on the Style of Milton's English Prose,' and of an edition, truly classical, of the most perfect specimen of that prose, the 'Areopagitica,' in all the purity of its original text, and clothed with all the panoply of critical illustration—copious, erudite, and profound" *.

It is to this gentleman's son, Algernon Holt White,

* Preface to Bennett's edition, 1836, page xi.

Esq., of Clements Hall, in Essex, that I have expressed my obligations in the Preface.

The third son, Benjamin, who was born in 1725, was more publicly known than either of the others until the 'History of Selborne' made its appearance, as he became the publisher of most of the standard works on natural history which were produced during his time, including his brother's; and the business was carried on by his son John after the father's retirement. He then became the occupier of a charming residence, Marelands, in the parish of Bentley, Hampshire, about ten miles from Selborne, now the residence of my friend, T. A. Seawell, Esq. Gilbert White thus alludes to his brother's proposed retirement to this place, in a letter to his niece, Miss Mary Barker, dated Feb. 18, 1792:—"My brother Benjamin, we hear, begins to think seriously of relinquishing his business to his sons; and meditates a retreat into Hants, for the remainder of his life, intending to leave S. Lambeth. Perhaps he may settle at Marelands, a beautiful seat between Alton and Farnham, late the residence of Mr. Sainesbury, uncle to Mrs. Edmund White. . . . . Marelands house and farm belong to Lord Stawell." At this place he died, in March 1794, and was buried at Selborne. His son Edmund became vicar of Newton Valence in 1784.

John White was in holy orders, and was, for a considerable time, the chaplain at Gibraltar. He was a man of congenial tastes and pursuits with his brother, and was for many years preparing a work on the natural history of Gibraltar and the neighbourhood. This was commenced during his residence in Spain, and it continued to occupy him till his death, but was never published. He was a correspondent of Linnæus, six of his

letters to whom, and four from Linnæus to him, will be found in the second volume. It is remarkable that Mr. Bennett, in the preface to his edition, should have fallen into the mistake (perpetuated, of course, by his copyists) that the Rev. John White was vicar of Blackburn before he went to Gibraltar. It will be seen that, of the six letters to Linnæus just mentioned, the only one from Gibraltar is of the date June 30, 1771, and the first from England is dated London, Jan. 1, 1773; the others are all from Blackburn, of various dates, from November 1773 to October 1774. Gilbert White, writing to his brother at Blackburn, August 2, 1773, says, "I find you still, as when you resided on the other side of the Pyrenean mountains, my most steady and communicative correspondent." It was, then, after his return from Gibraltar that he was instituted to the living of Blackburn, where for many years he continued his correspondence with his brother, whose letters to him will be read with great pleasure, as many of them evince the same qualities of style and matter as those which characterize his book. Gilbert took great interest in the progress of his brother's work, and there are repeated allusions to the subject in his letters to him. Even so early as in that which I have mentioned above, there appears an entreaty that he will "revise his journal without loss of time;" but in a letter of later date, to Daines Barrington, he refers to it as the work of the *late* Rev. J. White, "not yet published." The introduction to this work is now in my possession.

A letter from John White to his brother Gilbert, written some time after the former had gone to Gibraltar, indicates that some circumstances connected with his marriage had given uneasiness to his brothers in

England. His wife, however, had followed him to that place, and there a son was born in January 1759. This boy, after his father's return to England, resided for a considerable time with his uncle Gilbert, who was much attached to him, and appears, from his frequent affectionate mention of him in his letters to the father at Blackburn, to have treated him as a son. His studies of the best classical authors under his uncle's guidance and teaching, and the discrimination with which the subjects of those studies were selected, manifest the anxious care with which his education was conducted; and he became, in return, very useful to his uncle, acting occasionally as his amanuensis, and in various other ways. A reference to the letters of Gilbert White to his brother will show in a very interesting manner the intimate relation in which "Jack" stood to his uncle, the anxious care and supervision of the latter, and the practical gratitude of the boy. There can be no doubt that his success in after life was, in a great degree, the result of this influence. After many schemes had been considered with the greatest care and anxiety, he was brought up to the medical profession; and, after having practised for a time at Alton, he was induced to migrate to Salisbury, where he shortly afterwards was elected surgeon to the Infirmary in that city. His mother, after her husband's death, resided with Gilbert White, and remained with him during the remainder of his life.

Anne, who was born in April 1731, was married to Thomas Barker, Esq., of Lyndon Hall, in the county of Rutland, a gentleman of an ancient and respectable family*, and the grandson, on his mother's side, of the

* The following passage is from a letter of Mr. Barker's to Gilbert White:—"I find Bercarius for Barker in papers under my uncle

celebrated William Whiston, who died at Lyndon in 1752, at the age of 85. Mr. Barker's father was a man of deep learning, well known as a profound Hebrew scholar and Greek critic; and Mr. Thomas Barker was himself possessed of considerable literary and scientific acquirements. Mrs. Barker had one son, Samuel, and three daughters. They were frequent correspondents of Gilbert White; and many of his letters to them will be found in the second volume, and are very pleasing and interesting. Those to his nephew, extending from his boyhood to within a short time of his uncle's death, are remarkable for the variety of information and the pure classical taste which characterize them. One of the most pleasing of his poems, the 'Invitation to Selborne,' was addressed to him. Mr. Barker died in 1803, in the 88th year of his age.

The daughters, as appears from their uncle's letters, were skilful in music, and played well on the harpsichord; and it was in a letter to Mary Barker that he first quoted that favourite passage on the effects of music, from Gassendi's 'Life of Peiresc,' which occurs in Letter LVI. to Daines Barrington, and which I also find quoted, with similar remarks, in one of his letters to the Rev. Mr. Churton. Mrs. Barker died in 1801.

Samuel Barker married Miss Haggitt, a young lady of Northamptonshire, which event he announced in a letter to his uncle in July 1786. All his letters, several of which will be found in the correspondence, indicate how much he was imbued with the same tastes and pursuits as his relative, to whose influence he doubtless, in a great

William Whiston's hand, and I imagine the real name was Barker, and it was Latinized Bercarius. . . . In the same hand I find William le Barker mentioned in Rutland as long ago as Edward the First's time."

measure, owed them. He was High Sheriff of Rutland in 1815, and died in 1835, leaving two daughters.

Henry, the youngest of the family, born in 1733, was rector of Fyfield, near Andover. Several of Gilbert's letters to his brother John and other branches of the family, and one to Daines Barrington, were written at Fyfield. He had several pupils, and his success in tuition appears to have been considerable. The intelligence of his sudden death is thus communicated to his brother-in-law, Mr. Barker, in a letter dated Jan. 8, 1789:—"You must have heard, no doubt before now, of the sad and afflicting news from Fyfield—of the sudden and unexpected event that has plunged a numerous family in the deepest sorrow and trouble. . . . . How the widow and children are to proceed I have not yet heard. When the news arrived here, I wrote away immediately to Lady Young, entreating her to apply to the Chancellor for the living of Fyfield for Sam." This application was unsuccessful, as the living of Fyfield had been already promised; but the letter proceeds—"Two or three days ago a note came to Bro. B. from the Chan. informing him that Uphaven was at his service. Now you must remember that Uphaven was a very small vicarage indeed; however, Bro. H., I hear, had improved it not a little." By this it appears that he held the vicarage of Uphaven at the same time with the rectory of Fyfield. The letter goes on—"I now see more and more reason to be thankful to Providence for enabling me to procure so many friends to assist me in getting Sam elected Fellow. That young man, whom all speak well of, may become the stay and support of the family."

It appears that Henry entered at Oriel College, under his brother's auspices, at Easter, 1749, but did not re-

side there until November 16, 1750. His grandson, William White, F.S.A., is the well-known ecclesiastical architect*.

Of Gilbert White's boyhood I have been unable to obtain any information, beyond the simple fact, mentioned in the brief sketch by his nephew, prefixed to the second quarto and most subsequent editions of the work. "He received his school education at Basingstoke, under the Rev. Thomas Warton, vicar of that place, and father of those two distinguished literary characters, Dr. Joseph Warton, master of Winchester School, and Mr. Thomas Warton, Poetry Professor at Oxford. He was admitted at Oriel College, Oxford, in December 1739, and took his degree of Bachelor of Arts in June 1743. In March 1744, he was elected a Fellow of his college. He became Master of Arts in 1746." His election to a Fellowship is the first indication that I have met with of his possessing those talents and acquirements which afterwards manifested themselves in so pleasing and effective, although unostentatious a manner throughout his social life, as well as in his works. He received deacon's orders on Sunday, April 27, 1747, in the cathedral of Christ's Church, from the eminent Thomas Secker, then Bishop of Oxford, afterwards Archbishop of Canterbury.

At that time, his uncle, Charles White, held the rectory of Bradley, about six miles N.W. of Alton, and the perpetual curacy of Swarraton, near Old Alresford. Immediately after his ordination he entered upon his duties as curate of his uncle's living of Swarraton; and I find

* This gentleman has lately been engaged in conducting the restoration of Selborne Church.

in his account-book that, on the 21st of March, 1748, he received £20 as his curate's stipend for one year. It appears, however, that during the year in which he held this curacy, he kept his terms at College, as he was attacked with small-pox when at Oriel, which attack continued from the middle of October to near the end of November, 1747. This illness must have been a severe one, as he was repeatedly bled, and had a nurse from Selborne for five weeks—the expenses attending the illness amounting to more than fifty guineas, including thirty guineas for physician's fees.

He was ordained priest on Sunday, March 11, 1749, in the chapel in Spring Gardens, London, by James Beauclerk, Bishop of Hereford, "at the request of the Bishop of Winchester," at that time the celebrated Benjamin Hoadley.

His first ecclesiastical connexion with his native parish occurred by his appointment to the curacy of Selborne on October 25, 1751, during the incumbency of Dr. Bristow; and he retained it only until the 10th of the following March. On that day we find the following statement in his account-book:—"Mem. Threw up then to enter on my proctorship," which he did on the 8th of April, 1752.

In the brief memoir by his nephew which I have already quoted, it is stated that he was "admitted one of the senior proctors of the university." This is a mistake. He never was senior proctor. On the 8th of April, 1752, he became junior proctor. In a very curious and amusing account-book, which forms one of the documents for which I am indebted to Mr. Algernon White, and which will be found printed verbatim in the second volume, he states that the book was purchased

by him on March 21st of that year, for the purpose of recording his receipts and expenditure during his year of office, on which he was about to enter; and in this book he refers more than once to his immediate predecessor, Mr. Dickens, as "junior proctor." He entered on his office on the 8th of April; and on the 10th he has this entry:—"Paid my predecessor, Mr. Dickens, £3 12*s.* 0*d.*, to be repaid by my successor." The other proctor (as I am informed by my friend the Rev. John Sidebotham) whose name was placed above White's in the bracket, as follows, was Chapman, of Trinity, thus :—

1752 { Thomas Chapman, Trin.
Gilbert White, Oriel.

"When the election of proctors is announced to the Vice-Chancellor, the senior proctorship falls to the senior M.A. of the two. Chapman took his degree as M.A. on November 7, 1741; White, on October 22, 1746, so that his proper title is junior proctor."

An amusing anecdote has been told me as having occurred when in the exercise of his functions as proctor, which so strikingly exemplifies some points of his character that I cannot refrain from giving it a place in this memoir. He was taking his rounds one evening in the course of his duty, when he saw, as he was crossing the triangular space at the back of the Schools and Theatre, an undergraduate lying on the ground sound asleep, and evidently so under the influence of intoxication. He was partially undressed, but with his outer garments neatly folded up and placed by his side. The proctor awoke him, and the terror of his suddenly finding himself in the presence of this dreaded official at once sobered him. He received the command to call upon the proctor on the following morning; and on his obeying this order, full

of shame and fear, Gilbert White thus addressed him:—"I was shocked and distressed, young man, to see you in such a disgraceful situation as you were in last evening—a situation of which I hope you are thoroughly ashamed. You deserve an exemplary punishment; but I observed one circumstance which shows that you are not wholly degraded. Your clothes were folded up by your side, indicating habits of care and neatness which appear incompatible with habitual degradation. I shall therefore say no more upon this occasion, beyond the expression of my sincere hope that I shall never again hear of your being guilty of such disgraceful conduct." And thus he dismissed the youthful culprit.

During his residence at the University, we find in the various items of his accounts that he exhibited the same generous hospitality to his relations and friends which always distinguished him. There are continual entries in the diary of his expenditure of sums spent in the entertainment of his visitors,—sometimes his sister, Mrs. Barker, and other members of the family, at other times the Yaldens, Mulsos, &c., and on one occasion some descendants of the noted William Whiston, already mentioned as nearly connected with his brother-in-law, Mr. Barker; and it is evident that at this time, as throughout his life, his habits were eminently genial and social.

I must not quit this period of his life without remarking that the statement which has been made by some members of his own family, that he gave up shooting immediately on his being ordained, is erroneous. Not only is this proved by the frequent entries in his accounts of the purchase of the usual necessaries for the sport, and by the fact that he kept several sporting-dogs, both at

Oxford and Selborne, but we also find occasional allusions in his letters, which show that he continued to follow the sport, although not to an advanced age; and it is extremely probable that he occasionally made it subservient to his pursuit of the ornithology of the district.

Nothing could be more fallacious and undeserved than an impression, if any such ever existed, that, because Gilbert White repeatedly declined college livings which came within his option, and that in the only one to which he was ever licensed he never resided,—perhaps, also, presuming that his devotion to the pursuit of natural history and other intellectual occupations were incompatible with the due performance of the functions of his position as an ordained minister of the Church—his predilections were therefore secular rather than ecclesiastical. His life, on the contrary, may be truly said to have been passed in the constant and diligent fulfilment of the duties of his holy office continuously from the time of his taking deacon's orders till his death.

After the brief period of a year and a half, during which he held first the curacy of Swarraton and afterwards that of Selborne, as has been already stated, he quitted his residence at Oxford in the spring of 1753; and on the 9th of September in the same year he entered on the curacy of the little parish of Durley, near Bishop's Waltham, in Hampshire, in which he ministered constantly until the 9th of March, 1755, "one year and an half," for which he received as his stipend at the rate of £24 per annum, which, with the addition of surplice-fees and marriages, amounted to £36 18*s.* 4*d.* for the whole period. Such was the remuneration for regularly performing divine service in a parish so many miles from

his Selborne home. During this time he had lodgings at Bishop's Waltham, within about three miles of Durley; and I find, upon looking over his book of expenditure during this period, and carefully eliminating those items which did not belong to his residence at Bishop's Waltham, that the actual expenses of his curacy exceeded his receipts from it by nearly £20. It is interesting to observe that, at this early period of his career, he was influenced by the same unselfishness and true christian liberality which formed so marked a characteristic of his whole future life.

The persistent celibacy of Gilbert White appears scarcely consistent with his eminently affectionate and social disposition, and leads naturally to the supposition that there must have been some disappointment in his early life, which had an enduring effect upon his mind and heart, and prevented his ever again seeking a union in which his qualities were so calculated to receive and communicate happiness. Such was really the case. The lady who was the object of his early regard was Miss Hester Mulso, the daughter of an intimate friend of the family, Thomas Mulso, Esq., of Twywell, in Northamptonshire. This lady was born in 1727; she was therefore seven years Gilbert White's junior. She gave early promise of the literary distinction to which she afterwards attained as Mrs. Chapone, and is said to have composed a romance when a child of nine years of age. She became early the friend and correspondent of many of the distinguished literary persons of the period, of both sexes, amongst whom may be mentioned Richardson, Johnson, Mrs. Montague, Mrs. Carter, and others. By Richardson she was introduced to Mr. Chapone, a barrister, to whom, after a long acquaintance, she was

married in 1760, but she was left a widow in ten months afterwards. An early and witty contribution to the 'Rambler'*, the sad but interesting story of "Fidelia" in the 'Adventurer'†, and some other minor publications evinced much talent; but the work which made her famous was her 'Letters to a Young Lady on the Improvement of the Mind,' published in 1773. She died at Hadley in 1801. Some verses addressed by her to Timothy, Gilbert White's now celebrated tortoise, occasioned its owner's long and amusing *jeu d'esprit* in reply in Timothy's name. She was a frequent visitor at the vicarage of Newton Valence, of which Edmund White was incumbent. Her brother was an intimate friend of Gilbert White's at college; and we find repeated entries in his account-book of excursions with "Tom Mulso" at that period, and the intimacy continued during life.

Having thus glanced over that period of his life in which his connexion with his birthplace and future home had been more or less interrupted by his college education, his university offices, and his brief clerical appointments, we come now to the time when he entered upon his permanent residence in the old parish with which his name is ever associated—no more to quit it, except on visits to his friends or occasional journeys to the metropolis, still in pursuit of his favourite study. Here, then, he became permanently established in the spring of 1755. We find him, however, early in the previous year, entertaining friends at the vicarage and performing other offices there, from which it would appear that he was residing in the vicarage for a time, possibly during the temporary absence of the vicar; but

* No. 10. April 21, 1750.

† Nos. 77, 78, 79. July 1753.

it was certainly not until the date above mentioned that he can be considered as the settled inhabitant of the parish. Whether, in fact, he at that time took up his residence in his father's house, afterwards his permanent home, I am not informed. His father died in 1758; and in a letter, written shortly after that event, from John White, then at Gibraltar, dated January 1759, we have the following allusion to his father's place:—"I was much pleased with your description of the Hermitage, and hope, some time or other, to visit that delightful spot once more. I beg to hear if you intend to continue the occupier of those beautiful environs of my father's house, or if the sweet shades and solitudes of Baker's Hill, &c. are to fall a prey to the merciless hands of the farmer and hedger."

He became the actual possessor of the property only on the decease of his uncle Charles, the rector of Bradley, in 1763. The deed is thus endorsed in Gilbert's handwriting:—

"Copy for the Wakes my dwelling house," &c.

Shortly after his father's death he became curate of the neighbouring parish of Faringdon, about two miles distant. The first marriage registered there as solemnized by him was in September 1762; and there he continued to officiate very regularly until 1784, when he resigned the curacy of Faringdon to resume that of his native parish, of which he gives notice in a letter to his sister, Mrs. Barker, dated October 19 of that year:—"Mr. Taylor, our new Vicar, has taken possession of his living; and I have re-assumed the curacy, after an intermission of twenty-six years!"

From the time of his taking up his residence at Selborne he renounced all intention of accepting any cleri-

cal duty which would withdraw him from his hereditary and chosen home. The fact of his having accepted the living of Moreton-Pinkney, in Northamptonshire, cannot be considered a breach of this resolution, as he never resided there, nor did his holding the living interfere with the constant performance of his duties, either in Faringdon or Selborne. This living, which is in the patronage of Oriel College, became vacant in 1757, and on the 15th of December of that year he was presented to it. The license, which is at present in my possession, is dated May 9, 1758, and is signed by Richard Terrick, Bishop of Peterborough. The license is endorsed as "Exhibited Sept. 2, 1762, by C. Knott, Dep. Reg."

A letter from Dr. Musgrave, then Provost of Oriel, to Gilbert White, dated December 24, 1758, clearly intimates that some representations had been made to him that Gilbert White had "succeeded on his father's death to a very large estate," and that, on this account, his retention of his fellowship and, consequently, his presentation to the college living were inconsistent with his present position. The Provost, however, declines in the most positive manner to listen to these misrepresentations; for such they undoubtedly were, and probably made from interested motives.

The Rev. Thomas Mozley, who held the living of Moreton-Pinkney with his fellowship, and resided from 1852 to 1856, has informed me that he had frequently spoken of Gilbert White with an old person, a Mr. Stockley, a retired farmer and clergyman's churchwarden and adviser in parish matters, who well remembered Gilbert White coming from time to time to receive his rents and dues. He described him as a quiet, pleasant gentleman. Mr. Mozley adds that "he never did duty

there, that his license would not even involve induction or reading-in, and that, for a great part of last century and for some years in this, there was no resident clergyman, the church being served from a neighbouring parish." This living, then, which may be considered, in his case, a sinecure, he retained with his fellowship till his death. His successor at Moreton-Pinkney was presented in October 1793, and his fellowship filled up at Easter the following year.

In the year 1774 no less than three livings in the patronage of his college were declined by him. On the 9th of March in that year he writes to his brother John a somewhat amusing detail of "the dismal circumstances" in which the living of Cromhall was placed, which are quite sufficient to account for his decision, thus stated to his brother in a subsequent letter:—"I did not go to the election, but I wrote to the Provost, and sent a renunciation of the living of Cromhall, as I have done since of the living of Swainswick, in the neighbourhood of Bath, which Ken also died possessed of." Cromhall is a small parish in Gloucestershire. At what time the rectory of Cholderton was first refused by him, I do not know; but in September in the same year he informs his brother, "Cholderton lies again at my option." This parish is situated about five miles from Amesbury, in Wiltshire.

From the time of his having thus become settled in his chosen and final home, we find his time occupied in the duties of his curacies, in the constant pursuit of the study of nature, in the cultivation of his garden, and in the most intimate and friendly intercourse with his numerous intelligent friends. Of the manner in which each of these several occupations was conducted we have

examples in the present collection of his works. Besides his book and a large number of his original letters, I have ventured to publish one of his sermons and a portion of his 'Garden Kalendar,' for the latter of which I am indebted to the late James Field, Esq., and for the former to the Rev. M. G. Watkins.

Having two brothers residing in London, his visits to the metropolis were not infrequent; his opportunities of becoming acquainted with persons of distinction in intellectual acquirements were constantly cultivated; and his fellowship at Oxford enabled him to keep up his personal intimacy with his old college friends.

Among the men of note in the literary and scientific world with whom Gilbert White maintained a more or less intimate acquaintance were Sir Joseph Banks, the Hon. Daines Barrington, Pennant, Dr. Nash (the historian of Worcestershire), Lightfoot (the author of the 'Flora Scotica'), Mr. Churton, Dr. Chandler, of Magdalen College (the distinguished antiquary and traveller), and many others. Of these, Pennant, Daines Barrington, and Chandler are the most interesting, with reference to their connexion with Gilbert White—the former two as the persons to whom are addressed the letters which constitute the whole of the natural history of his book, and the last as having been his principal help in supplying the information on which the antiquarian portion is founded.

The time and circumstances of his first introduction to Pennant are uncertain; but, as his brother Benjamin was Pennant's publisher, it is very probable that it was through his means that the connexion, which afterwards became so intimate and so mutually influential, had its commencement.

If there be one author to whom, more than all others, Pennant is indebted for whatever is reliable or interesting in his book, particularly that portion which relates to the birds and to some of the rarer quadrupeds, that man is Gilbert White. His original information, so much the result of personal and acute research, addressed in letter after letter, in all the confidence and openness of an honest heart, and with a simple desire to obtain and communicate truth, is used by Pennant, adopted as his own, and printed in some parts almost verbatim from those letters. Do we find here and there, in the imposing work of Pennant, a passage which, either in style or originality, is superior to a mere wordy, technical description, the probability is that it was communicated by White. But there is no acknowledgment of his help, no recognition of the debt. Even in the account of the harvest-mouse there is no mention of its discoverer; in the history of the great bat, for a knowledge of which he was also indebted to White, and in numerous other instances, the man to whom the vain and self-seeking author of the 'British Zoology' was so greatly indebted is almost wholly ignored. Little did he anticipate, when he was thus availing himself of the simple and original life-histories of one so superior in these qualifications to himself, that his correspondent would be commemorated with ever-increasing admiration and esteem, while his own more pretentious book is only regarded of value because, at the time of its publication, it filled a gap in British natural science, and contained some matter of importance, the best of which was really not his own. It appears that even Gilbert White's generous and unsuspicious mind was not wholly without misgivings as regards this phase of Pennant's character. In one of

his letters to his brother John, he contrasts Lever with Pennant in the following words:—"Lever is a generous man, and is of great service to you by lending you all his books. I hope Mr. P. will bethink himself, and wipe off all the imputation of selfishness that he lies under;" and in another letter to his brother, referring to some drawings belonging to Pennant, is the following sentence:—"The long contested drawings are lodged in Thames Street, in order to be sent down to you. I wish they had been better executed, and the owner had behaved more like a gentleman on the occasion."

In an unpublished passage of Letter XXII., however, he gives Pennant credit for readiness to acknowledge his mistakes:—"In your letter of June 28, 1768, I could but admire with how much frankness you acknowledge several mistakes in your 'Zoology' with respect to some birds of the *Grallæ* order. Candour is a very essential part of a naturalist; and this accomplishment our great countryman, Mr. Ray, possessed in an eminent degree." In a subsequent portion of the same letter, also withheld from publication, he makes a kindly acknowledgment of the satisfaction he derives from the study of Pennant's book:—"I often take up your 'Zoology' for an hour, and entertain myself with comparing your description with those of the authors that have written on the same subject; and am pleased to find that my friend has through the whole acquitted himself so much to advantage."

The Hon. Daines Barrington, to whom no less than sixty-six of the published letters are addressed, was the son of the first Viscount Barrington, and brother of the Bishop of Durham. He was born in 1727, was educated at Oxford, called to the bar in 1740, and, after

holding successively several Government offices, he was elected Recorder of Bristol in 1753, and four years afterwards appointed a Welsh judge. In 1785 he retired finally from public life, and died in the year 1800, at his chambers in the Temple. He was a Fellow of the Royal Society; and it was through him that Gilbert White's papers on the *Hirundinidæ* were presented. Barrington was the author of some legal and political works, and of a considerable number of papers on natural history, which were published in the 'Philosophical Transactions.' It was probably to Pennant that White owed his first introduction to Daines Barrington. The first intimation which we meet with of his having formed this acquaintance is in his letter to Pennant of January 22nd, 1768, in which he says, "I have received from your friend Mr. Barrington one of his naturalist's journals, which I shall endeavour to fill up in the course of the year." This was a year and a half before the date of the first published letter to him. The last letter, which White closes with the expression, "I shall here take a respectful leave of you and natural history together," preceded the publication of the book by about a year and a half. Many of Barrington's papers, both in the 'Philosophical Transactions' and in those of the Society of Antiquaries, of which he was a vice-president, were embodied in his 'Miscellanies.' Of this collection White expresses his satisfaction in the commencement of his 51st letter, and his gratification at the honourable mention made of him in that work. Barrington speaks of him as "a well read, ingenious, and observant naturalist;" and I believe he never quoted him, or availed himself of his observations or discoveries, without due acknowledgment. There can be no doubt

that the strong opinion maintained by Barrington in favour of the hibernation and torpidity of swallows, greatly tended to confirm Gilbert White in the same error.

The Rev. Dr. Chandler*, to whose communications White was greatly indebted for his knowledge of antiquities, and particularly for all that relates to monastic and other religious establishments, was a distinguished antiquary and traveller. He was a Fellow of Magdalen College; and from this position he was able to give his friend material assistance as to the relations which have for so long a period subsisted between that establishment and the parish and institutions of Selborne. Dr. Chandler and a small party, in connexion with the Dilettanti Society, travelled in the classical districts of the East in the year 1766, and the results of their travels were afterwards published under the title of 'Ionian Antiquities.' In the year 1769 he was brought into close local association with Gilbert White from his presentation by his college to the livings of East Worldham and West Tisted, both of them in the neighbourhood of Selborne. He removed, however, to the rectory of Tilehurst, in Berkshire, where he died in 1810. One of the results of his study of the history and antiquities of the county of Hants was his life of Waynflete, Bishop of Winchester and Lord Chancellor, which was not published till after his death.

His acquaintance with Sir Joseph Banks was probably never very intimate; and I have met with but one letter from Gilbert White to him, which will be found in the correspondence; but the interest which he took in the pursuits of this distinguished man, and especially in his great undertaking—his voyage round the world with

* See Letter to S. Barker, May 6, 1790.

Captain Cook, which occupied from August 1768 to June 1771—is manifested in several of his letters to Pennant and to his other friends. Writing to Pennant on his return from a visit to London, on the 18th of June, 1768, he says *, "While in town, I was often in company with your friend Mr. Barrington, and cannot say enough in commendation of the candour and affability of that gentleman. Even Mr. Banks (notwithstanding he was so soon to leave the kingdom and undertake his immense voyage) afforded me some hours of his conversation at his new house, where I met Dr. Solander." In another letter to Pennant, dated October 8th, 1768, he writes *—"I met with a paragraph in the newspapers some weeks ago that gave me some odd sensations—a kind of mixture of pain and pleasure at the same time. It was as follows:—'On the 6th day of August, Joseph Banks, Esq., accompanied by Dr. Solander, Mr. Green, the astronomer, &c., set out for Deal, in order to embark on board the "Endeavour," Captain Cook, for the South Seas.'

"When I reflect on the youth and affluence of this enterprising gentleman, I am filled with wonder to see how conspicuously the contempt of dangers and the love of excelling in his favourite studies stand forth in his character. And yet, though I admire his resolution, which scorns to stoop to any difficulties, I cannot divest myself of some degree of solicitude for his person. The circumnavigation of the globe is an undertaking that must shock the constitution of a person inured to a seafaring life from his childhood; and how much more that of a landsman! May we not hope that this strong impulse, which urges forward this distinguished naturalist

* These passages occur in the MS. of the respective Letters XVII. and XX., but were omitted in publication.

to brave the intemperance of every climate, may also lead him to the discovery of something highly beneficial to mankind? If he survives, with what delight shall we peruse his Journals, his Fauna, his Flora! If he falls by the way, I shall revere his fortitude and contempt of pleasures and indulgencies, but shall always regret him, though my knowledge of his worth was of late date, and my acquaintance with him but slender." On November 28th, in the same year, he writes:—"Poor Mr. Banks! His undertakings are virtue in excess; and I could almost wish he had followed your advice, and sent a proxy. But then he would have foregone the honour and praise due to such a disinterested hazarding of his life, which a very sensible man told me the other day much more merited a peerage than the enterprise undertaken by Lord Anson."

The difficulties and annoyance experienced by Banks's party from the impediments and opposition offered by the Spanish authorities are described in a letter from Solander to Ellis *, dated December 1, 1768, which is printed in full in the 'Annual Register' for 1769 (page 188). The whole of this communication will be found extremely interesting. It excited Gilbert White's sympathy, and is thus referred to in his letter to Pennant, December 8, 1769:—"It is grievous to see from Dr. Solander's letter in the 'Gentleman's Magazine,' dated from Rio de Janeiro, with what insolence the Viceroy of Brazil treated those gentlemen who have hazarded their lives in pursuit of natural knowledge; and this is not the worst of it, for when they arrive in the South Seas their reception will be just the same from every Spanish governor, from Chili to Mexico" †.

* Author of the well-known work on Corallines.

† This passage is omitted from Letter XXVI.

At length, however, his anxieties for the welfare of the great circumnavigator were relieved by the news of his safe and prosperous return; and on the 19th of July, 1771, he gives expression to his satisfaction in writing to the same friend in the following gratulatory terms *:— "Yesterday I had a letter from town which mentions the return of Mr. Banks; and adds that he looks as well as ever he did in his life. So agreeable an event calls for my warm congratulations; for if we rejoice at the arrival of a friend who has been absent but a few months, perhaps in a neighbouring kingdom, how shall we express ourselves when we see one restored, as it were, from the other world, after having undergone the astonishing hazards and dangers that must attend the circumnavigation of the world itself!!!" In another letter to Pennant, Sept. 25 of the same year, he says*, "Pray present my humble respects to Mr. Banks, and tell him I heartily congratulate him on his safe return from his astonishing voyage. The world expects great information from his discoveries during his circumnavigation."

The innumerable treasures of natural and artificial objects of interest brought home by Banks on his return from his celebrated voyage in 1771 were deposited and partially arranged in his house in Burlington Street; and in the following year a long letter to Gilbert White from his friend Mr. Sheffield gives an account of a visit he had paid to Banks, with a general description of this invaluable collection. This letter, which was enclosed in one to Samuel Barker from his uncle, will be found in the second volume.

It is almost impossible to exaggerate the merit of this truly great man, who devoted his time, his talents, his ample fortune, and his personal comfort and safety to the

* Omitted from Letters XXXV. and XXXVI.

promotion of science and the intellectual improvement of mankind. He acquired and he deserved the homage of men of the highest eminence in every branch of knowledge; and during the long period of his presidency of the Royal Society, which he held for forty-two years, he identified himself, with equal energy, dignity, and judgment, with the highest aims and interests of that body.

But the period of Gilbert White's life with which the most general interest is associated is that which belongs to the origin, progress, and completion of the work on which his fame has for so many years rested, and the interest in which is, at the present moment, as great as when the excitement of novelty, both in design and execution, was attached to it. It is certain that the letters to Pennant, which constitute the bulk of the work, up to the year 1770, including the whole from the 10th to the 30th, and probably many, if not all, of the subsequent ones, were written without any view to publication. The first suggestion which we have on record that he should engage in such a work came from Daines Barrington, as is shown in the following passage in the fifth published letter to that gentleman, dated April 1770:—"When we meet I shall be glad to have some conversation with you concerning the proposal you make of my drawing up an account of the animals of this neighbourhood. Your partiality towards my small abilities persuades you, I fear, that I am able to do more than is in my power: for it is no small undertaking for a man unsupported and alone to begin a natural history from his own autopsia!" When once the idea of authorship was generated in his mind he

never wholly relinquished it, although its fulfilment was postponed from time to time for so many years. Here and there in his correspondence it reappears.

In an unpublished letter to Pennant (July 19, 1771) occurs the following passage, which clearly indicates that some communication had taken place between them on this subject. After referring to the correspondence which was at that time going on between his brother John and Pennant respecting the work on the Natural History of Gibraltar, in which the former was engaged, he says, " As to any publication in this way of my own, I look upon it with great diffidence, finding that I ought to have begun it twenty years ago; but if I was to attempt anything, it should be somewhat of a Nat: history of my native parish, an *Annus historico-naturalis*, comprizing a journal for one whole year, and illustrated with large notes and observations. Such a beginning might induce more able naturalists to write the history of various districts, and might in time occasion the production of a work so much to be wished for, a full and compleat nat: history of these kingdoms." This is certainly an interesting passage, as it shows that even at this early period, when contemplating the possible production of his future work, the idea that he might be the pioneer of many labourers in the same field was the ultimate object of his wishes and intentions. It is somewhat disappointing that this object has since been so imperfectly fulfilled, that the long period of nearly a century has passed since so admirable an example was set, and that so little has been done compared with what might have been hoped for, and he had probably anticipated, and that what has been accomplished has never ap-

proached in interest and popularity this simple and almost unpremeditated attempt.

To his brother John he writes (April 1774, four years after Barrington's first suggestion), "Out of all my journals I think I might collect matter enough, and such a series of incidents as might pretty well comprehend the Nat: History of this district, especially as to the ornithological part; and I have moreover half a century of letters on the same subject, most of them very long; all which together (were they thought worthy to be seen) might make up a moderate volume. To these might be added some circumstances of the country, its most curious plants, its few antiquities, all which together might soon be moulded into a work, had I resolution and spirits enough to set about it." The letters to which he refers consist of those to Pennant and Daines Barrington, which constitute the natural-history portion of his book; and of these the greater number are of dates anterior to that of this letter to his brother. Those to Pennant were returned to him when he determined upon taking the important step, and are at present in my temporary possession. They contain some passages which were omitted in publication; but a few of them have appeared to me worthy of being restored, and will be found in the notes.

The intention to publish, however, although never lost sight of, required a degree of courage and resolution which time and the stimulus of friendly pressure could alone induce. At length, in the month of February 1776, in a letter to his nephew, Samuel Barker, we find that he has again been urged by Mr. Barrington to publish, but not alone. "Mr. Barrington wants me to join with him in a Nat: Hist: publication; but if I publish

at all, I shall come forth by myself." In a subsequent letter to the same, written in August of the same year, he alludes to his two papers read at the Royal Society in 1774 and 1775, and refers to his intention to publish by the express request that his nephew should pay attention to all the species of the Swallow family, " for I shall be glad of any *well attested* anecdotes, intending some time hence to publish a new edition of my ' Hirundines ' in some way or other." In the same letter he speaks of Grimm's drawing of the Hermitage, which afterwards formed the vignette in the titlepage of his book. In a letter to his brother Thomas, in the month of June 1777, he discusses the subject of the manners, customs, and morals of the occupants of the Temple and Priory, enclosing a long letter from Dr. Chandler on that subject. It is possible that this information was communicated to his brother with the immediate object of assisting him in his projected work, the ' History of Hampshire,' which, however, was never carried out; but the ultimate destination of the materials thus collected was doubtless the antiquarian section of his own future book, in which it appeared in detail eleven years later! To his nephew he again writes in the following year, after a long and most curious quotation from a further communication of Dr. Chandler's, " Should I ever be able to finish my work respecting this my native place, the old deeds and charters &c. will furnish a large appendix!" To this intelligent relative's criticism he submitted his MS., and he appears to have been much pleased with his nephew's appreciation of his work. In November 1780 he writes: " You do not, I hope, flatter me about my Nat: Hist:; if you do not, I am much pleased to find that an intelligent person like yourself

approves of it. Were it not for want of a good amanuensis, I think I should make more progress; but much writing and transcribing always hurts me."

At length, however, the transcribing is completed, and chiefly by himself; the printers appear to have done their part admirably, and on the 8th of January 1788 he writes thus to his nephew Barker :—" I have been very busy of late, and have at length put my last hand to my Nat: Hist: and Antiquities of this parish. However, I am still employed in making an Index. . . . . My work will be well got up, with a good type and on good paper, and will be embellished with several engravings. It has been in the press some time, and is to come out in the spring." In this anticipation, however, he was disappointed. Notwithstanding his own advertisement, as printed, is dated by himself Jan. 1st, 1788, its actual publication did not take place until more than a year after. The following amusing lines were written by him on the eve of its appearance; they have never before been published. The dreaded result has been most signally negatived.

" *To myself commencing author.*

" Go, view that House, amid the garden's bound,
Where tattered volumes strew the learned ground,
Where Novels,—Sermons in confusion lie,
Law, ethics, physics, school-divinity;
Yet did each author, with a parent's joy,
Survey the growing beauties of his boy,
Upon his new-born babe did fondly look,
And deem Eternity should claim his book.
Taste ever shifts; in half a score of years
A changeful public may alarm thy fears;
Who now reads Cowley?—The sad doom await,
Since such *as these are now* may be thy fate.

" Gil: White."

" South Lambeth, 25 June, 1789."

The appearance of the book, so long delayed, excited much interest, and brought the author into immediate correspondence with some scientific men whom he had not previously known. Amongst them I may particularly mention Mr. Marsham, F.R.S., of Stratton-Strawless Hall, in Norfolk, the author of a series of observations, communicated to the Royal Society in 1789, under the title of "Indications of Spring," and published in the Philosophical Transactions of that year. Amongst the mass of correspondence confided to me by Mr. Algernon Holt White, I find ten letters from Mr. Marsham to Gilbert White, which are full of interesting facts and observations, a considerable portion of which relate to the growth of trees, a subject to which he had for years paid particular attention. His first letter commences thus:—"Sir, I have received so much pleasure and information from your ingenious Nat: Hist: of Selborne, that I cannot deny myself the honest satisfaction of offering you my thanks." These, with the same number of letters from Gilbert White to Mr. Marsham, will be found in the second volume. The former prove that so far from White having "taken leave of Natural History," as he assured Daines Barrington was his intention, he evidently continued to study Nature with as keen observation and as true devotion as ever.

With the publication of his book the chief personal interest of Gilbert White with the public ceases. He continued almost to the last his pleasant correspondence with his friends and relations, his kind and genial hospitality, his charitable benevolence to the poor, and his pious ministrations in the parish. Little more than a fortnight before his death the last record of his ministerial duties occurs in the parish register of his

having officiated at a funeral. His confinement by his last illness was therefore very short, though attended with much suffering. The consolations which he had for so many years administered to others were now his own, and full of faith he calmly breathed his last on the 26th of June, 1793*. He was buried on the 1st of

* The following pleasing lines were written by my late revered friend Miss Letitia Waring, and given to me but a short time before her own death.

["The writer has been informed by a descendant of one who was in attendance at the dying bed of Gilbert White that, during the acute suffering of his last illness, which he bore with exemplary patience, he was continually engaged in fervent prayer, or repeating with solemn pathos many passages of Holy Writ, which have been for ages the delight and solace of devout believers, dwelling frequently and emphatically on the latter part of the 19th chapter of the Book of Job.

"*The Naturalist's last words—*

"'I KNOW THAT MY REDEEMER LIVETH.'

"O God! I thank Thee that my lot was cast
Beneath the shadow of that lovely hill,
Where, gliding on, life's peaceful stream has passed
As through the valley winds the tranquil rill.

"In these green shades the glad birds warbling round,
Sun-loving flowers by field or forest mere,
The dullest inmate of my garden bound,
All grateful speak Thy guardian presence here.

"How quick the charmèd glance, that joyed to trace
Thy wondrous work in insect, bird, or flower;
How slow the heart to seek thy heavenly grace,
Thy gift supreme of soul-transforming power.

"Now the dull ear scarce heeds the voice of song
And fair creation fades before mine eyes,
Prophetic lyres their solemn strains prolong,
And on my soul redemption's glories rise.

July by the Vicar of the parish, the Rev. Christopher Taylor. To the north of the chancel wall are six humble graves, all, I believe, occupied by the remains of the White family. The fifth from the wall is that of Gilbert White, with the simple inscription, "G. W., June 26, 1793." A marble tablet* to his memory was placed against the wall on the outside, with the following inscription:—

"In the fifth Grave from this Wall are interred the Remains of
The Rev^d. GILBERT WHITE, M.A.,
Fifty years Fellow of Oriel College, in Oxford,
and Historian of this, his native Parish.
He was the eldest Son of John White, Esquire, Barrister-at-Law,
and Anne, his Wife, only Child of
Thomas Holt, Rector of Streatham, in Surrey,
which said John White was the only Son of Gilbert White †,
formerly Vicar of this Parish.

"Wisdom beyond wide Nature's various lore
In mercy, Lord, Thy quickening spirit gives,
And still this sacred page delights me more,
While here I learn that 'my Redeemer lives.'

"Ye holy prophets lend your strains again;
Your meek confessions and your joys are mine.
I taste while lingering in this mortal pain
The healing waters from a fount divine.

"One glorious hope has crowned my length of days:
I know, though soon beneath the valley's sod
Shall rot the wasting form whose strength decays,
Yet shall mine eyes behold my Saviour God.

"L. W."]

* This tablet has since been removed for its better preservation into the chancel, and is fixed to the south wall. The words "the fifth grave from this wall" refer, of course, to its original position.

† The vicar had one other son, Sampson, who, it appears, died very young, and four daughters—Mary, who married Mr. Isaac;

He was Kind and Beneficent to his Relations,
Benevolent to the Poor,
and deservedly respected by all his Friends and Neighbours.
He was born July 18th, 1720, O.S.,
And died June 26th, 1793.
Nec bono quicquam mali evenire potest,
nec vivo, nec mortuo."

The foregoing simple sketch of the life of Gilbert White, imperfect and unsatisfactory as it is, serves to bring before the readers and admirers of his book some traits of his mind and character which harmonize perfectly with those which are less obviously developed in his writings. The same combination of simplicity and refinement, the same acuteness of observation, the same humility and absence of all ostentation and self-consciousness which together constitute the great charm of his work, are equally conspicuous in his familiar correspondence and the everyday habits of his life. Anecdotes which have formerly been told me show that, besides the qualities to which I have alluded, his temper was particularly placable and forgiving. An amusing instance of this was related to me by his own nephew. His old servant, Thomas (who, it would appear, was somewhat spoilt by indulgence), came one day to his master and

Rebecca (Mrs. Snooke); Dorothea, who became the wife of her father's successor as vicar of the parish; and Elizabeth, who married her second cousin, the Rev. Charles White, Rector of Bradley, who, as has been before stated, left the Selborne house to Gilbert, who had been his curate. Charles was therefore his uncle only by marriage. In the church register at Selborne I find the following entry:— "$17\frac{29}{30}$. William Henry Cane, Vicar of Selborn, and Mrs. Dorothea White were married Jan. 3rd."

"The Rev. Charles White, Rector of Bradley, and Mrs. Elizabeth White, of this parish, were also married on the same day, Jan. 3rd, $17\frac{29}{30}$."

said, "Please, sir, I've been and broke a glass." "Broke a glass, Thomas! How did you do that?" "I'll show you, sir." So he went and brought a wine-glass in his hand, which he threw down on the floor, saying, "That's how I broke it, sir." "There, go along, Thomas! you are a great fool," said his master, and then muttered, "And I was as great a one for asking such a foolish question."

Before closing this memoir it may not be irrelevant to bestow a brief consideration on the subject of his poetical taste, and the manner in which it is manifested in his own verses. That he had formed his judgment on an extensive acquaintance with the best poets of this country, as well as those of ancient Greece and Rome, is evidenced by his letters to his younger relations; and more particularly in two of those to his nephew Samuel Barker, of a somewhat didactic character, will be found indications of a sound judgment in poetical criticism. There is much that is pleasing in several of his own productions; and I may especially mention the "Invitation to Selborne," and with still higher praise his charming "Naturalist's Summer-Evening Walk"*. In an unpublished note by his nephew Edmund, the Vicar of Newton Valence, I find the following high appreciation of this poem by one whose approval was no slight testimony to its merits:—"Dr. Joseph Warton (head master of Winchester), calling upon me after Gilbert White's death, said to me, 'Mr. White, I quite envy your uncle the "Summer-Evening Walk." It is a charming production; and the classical allusion at the end is the happiest I know in our language.'" Dr. Joseph Warton, himself a poet, had been early educated by his father,

* See the XXIVth letter to Pennant.

Thomas Warton, then at Basingstoke, under whom, as has been stated, Gilbert White also received his school education, preparatory to his entering the University. Joseph Warton had removed to Winchester, and there the poet Collins was his intimate friend, and the intimacy continued when they were both at Oxford. Through this association with Warton, White became acquainted with Collins. How far his intimacy with the two poets may have influenced his taste for poetry we know not; but I have sometimes fancied that the versification of the little poems above mentioned possessed a good deal of the ring of Collins's, especially of his eclogues. Some years after Collins's lamentable death, Gilbert White wrote anonymously to the 'Gentleman's Magazine'*, giving a short but affecting account of his eccentric life and its sad close. I find a copy of this letter amongst his papers.

Gilbert White's personal appearance has been described to me by his nephew, the late Rev. Francis White, who remembered him well. He was only five feet three inches in stature, of a spare form and remarkably upright carriage. He never would sit for his portrait. The supposition of some persons that the clergyman represented in the large frontispiece to the first edition of his work was intended for him is therefore erroneous†. The expression of his countenance was, as those who knew have recorded, intelligent, kindly, and vivacious; his constitu-

* 1781.

† It may be interesting to those who possess either of the 4to editions of the work, to be informed who were the persons represented in the frontispiece. The first is the Rev. Robert Yalden, the Vicar of Newton Valence; second, Mr. Etty, the brother of the Vicar of Selborne; third, Mrs. Yalden; and the fourth, Thomas Holt White, Gilbert's brother.

tion sound and vigorous; his manners courteous and affable.

I feel that I cannot better close this memoir than in the words of a mediæval poet:—

Vixisti bene ac beate!
valente
Semper corpore, mente sana, amicis
Jucundus, pietate singulari.

THE WYCH ELM. From a Photograph.
(Vol. I. p. 5.)

THE NATURAL HISTORY OF SELBORNE.

LETTER I.

TO THOMAS PENNANT, ESQUIRE.

THE parish of SELBORNE * lies in the extreme eastern corner of the county of *Hampshire*, bordering on the county of *Sussex*, and not far from the county of *Surrey*; is about fifty miles south-west of *London*, in latitude 51, and near midway between the towns of *Alton* and *Petersfield*. Being very large and extensive it abuts on twelve parishes, two of which are in *Sussex*, viz. *Trotton* and *Rogate*. If you begin from the south and proceed westward the adjacent parishes are *Emshot*†, *New-*

* [Selborne. For etymology &c. see Antiquities, Letter II.—T. B.]

† [Empshott. The etymology of this name is very obscure. In Domesday Book it is spelt *Hibisete*. The terminal *sete*, the meaning of which is tolerably clear, occurs in the names of many other places, in which it has become changed, as in the present instance, to *shott*; thus Brenbresete becomes Bramshott, Campessete Kempshott, Lidessete Lidshott, &c.; but how the ancient name became changed to the modern orthography, or what is the meaning of the first portion of it, I have failed to discover.—T. B.]

ton Valence *, *Faringdon*, *Harteley Mauduit*†, *Great Ward le ham*‡, *Kingsley*, *Hedleigh*, *Bramshot*, *Trotton*, *Rogate*, *Lysse*, and *Greatham*. The soils of this district are almost as various and diversified as the views and aspects. The high part to the south-west consists of a vast hill of chalk, rising three hundred feet above the village; and is divided into a sheep down, the high wood, and a long hanging wood called *The Hanger*. The covert of this eminence is altogether beech, the most lovely of all forest trees, whether we consider it's smooth rind or bark, it's glossy foliage, or graceful pendulous boughs. The down, or sheep-walk, is a pleasing park-like spot, of about one mile by half that space, jutting out on the verge of the hill-country, where it begins to break down into the plains, and commanding a very engaging view, being an assemblage of hill, dale, wood-lands, heath, and water. The prospect is bounded to the south-east and east by the vast range of mountains called *The Sussex Downs*, by *Guild-down* near *Guildford*, and by the *Downs* round *Dorking*, and *Ryegate* in *Surrey*, to the north-east, which altogether, with the country beyond *Alton* and *Farnham*, form a noble and extensive outline.

* [" Newton Valence derives its adjunct from William de Valentin, half-brother to Henry III., who held the manor in 1273."—*Moody*. The name in Domesday Book is spelt Newentone.—T. B.]

† [Hartley Mauditt. The ordinary orthography of Hartley is Hartley Mauditt, or Maudytt. In Domesday Book the name of the then lord is spelt in two different ways, Maldoit and Malduith. The name Hartley, or Harteley, which occurs in several other places to the north of this parish, forms one of many indications of the extensive ancient forest of the district, extending eastward and including those of Alice Holt and Wolmer.—T. B.]

‡ [Worldham. The name of Worldham has undergone some remarkable changes in its orthography and pronunciation. In Domesday Book it is spelt Werildeham; and this was doubtless its name in Saxon times. The common pronunciation amongst the peasantry of the district is Wordleham; and I have seen it so spelt in some old official document. The etymology of the name is very doubtful; and that assumed by White is not supported by any known fact in the history of the parish. May a suggestion be hazarded that the Saxon name Werildeham had reference to the reputed longevity of its inhabitants, and that Wer-ylde-ham may be literally translated " The old men's village "?—T. B.]

At the foot of this hill, one stage or step from the uplands, lies the village, which consists of one single straggling street, three quarters of a mile in length, in a sheltered vale, and running parallel with *The Hanger*. The houses are divided from the hill by a vein of stiff clay (good wheat-land), yet stand on a rock of white stone, little in appearance removed from chalk; but seems so far from being calcarious, that it endures extreme heat. Yet that the freestone still preserves somewhat that is analogous to chalk, is plain from the beeches which descend as low as those rocks extend, and no farther, and thrive as well on them, where the ground is steep, as on the chalks.

The cart-way of the village divides, in a remarkable manner, two very incongruous soils. To the south-west is a rank clay, that requires the labour of years to render it mellow; while the gardens to the north-east, and small enclosures behind, consist of a warm, forward, crumbling mould, called *black malm*, which seems highly saturated with vegetable and animal manure; and these may perhaps have been the original site of the town; while the wood and coverts might extend down to the opposite bank.

At each end of the village, which runs from south-east to north-west, arises a small rivulet: that at the north-west end frequently fails: but the other is a fine perennial spring little influenced by drought or wet seasons, called *Well-head*.[a] This breaks out of some high grounds joining to *Nore Hill*, a noble chalk promontory, remarkable for sending forth two streams into two different seas. The one to the south becomes a branch of the *Arun*, running to *Arundel*, and so falling into the *British* channel: the other to the north. The *Selborne* stream makes one branch of the *Wey;* and meeting the *Black-down* stream at *Hedleigh*, and the *Alton* and

[a] This spring produced, *September* 14, 1781, after a severe hot summer, and a preceding dry spring and winter, nine gallons of water in a minute, which is five hundred and forty in an hour, and twelve thousand nine hundred and sixty, or two hundred and sixteen hogsheads, in twenty-four hours, or one natural day. At this time many of the wells failed, and all the ponds in the vales were dry.

Farnham stream at *Tilford-bridge*, swells into a considerable river, navigable at *Godalming;* from whence it passes to *Guildford*, and so into the *Thames* at *Weybridge;* and thus at the *Nore* into the *German* ocean.

Our wells, at an average, run to about sixty-three feet, and when sunk to that depth seldom fail; but produce a fine limpid water, soft to the taste, and much commended by those who drink the pure element, but which does not lather well with soap.

To the north-west, north and east of the village, is a range of fair enclosures, consisting of what is called a *white malm*, a sort of rotten or rubble stone, which, when turned up to the frost and rain, moulders to pieces, and becomes manure to itself.[b]

Still on to the north-east, and a step lower, is a kind of white land, neither chalk nor clay, neither fit for pasture nor for the plough, yet kindly for hops, which root deep into the freestone, and have their poles and wood for charcoal growing just at hand. This white soil produces the brightest hops.

As the parish still inclines down towards *Wolmer-forest*, at the juncture of the clays and sand the soil becomes a wet, sandy loam, remarkable for timber, and infamous for roads. The oaks of *Temple* and *Blackmoor* stand high in the estimation of purveyors, and have furnished much naval timber; while the trees on the freestone grow large, but are what workmen call *shakey*, and so brittle as often to fall to pieces in sawing. Beyond the sandy loam the soil becomes an hungry lean sand, till it mingles with the forest; and will produce little without the assistance of lime and turnips*.

[b] This soil produces good wheat and clover.

* [A sufficiently full account of the geology of the district, for which I am indebted to my friend William Curtis, Esq., of Alton, will be found in the Appendix.—T. B.]

LETTER II.

TO THE SAME.

In the court of *Norton* farm house, a manor farm to the north-west of the village, on the white malms, stood within these twenty years a *broad-leaved elm*, or *wych hazel*, *ulmus folio latissimo scabro* of *Ray*, which, though it had lost a considerable leading bough in the great storm in the year 1703, equal to a moderate tree, yet, when felled, contained eight loads of timber; and, being too bulky for a carriage, was sawn off at seven feet above the butt, where it measured near eight feet in the diameter. This elm I mention to show to what a bulk *planted elms* may attain; as this tree must certainly have been such from it's situation *.

In the centre of the village, and near the church, is a square piece of ground surrounded by houses, and vulgarly called *The Plestor*.[c] In the midst of this spot stood, in old times, a vast oak, with a short squat body, and huge horizontal arms extending almost to the extremity of the area. This venerable tree, surrounded with stone steps, and seats above them, was the delight of old and young, and a place of much resort in summer evenings; where the former sat in grave debate, while

* [On the grounds now belonging to the place, and at about fifty yards from the house, stands a very remarkable example of rejuvenescence in a tree of this species, the *Ulmus montana* of Bauhin. From its great age it had become a mere shell, but still continued to flourish; and in the month of June 1857 it suddenly broke and fell, from the mere weight of the foliage; for there was no wind at the time. The remains consisted of the broken and hollow base only of the trunk, which had no appearance of vitality; but it soon threw out young wood, and now forms a large and luxuriant tree, which is yearly covered with profuse foliage, and its new branches extend to nearly sixty feet across. It must be very old, probably three or four centuries, as a single branch, when sawn through, showed at least a hundred annual rings. The mass of the hollow fallen trunk, nearly six feet in diameter, is still preserved; and a figure of it, from a photograph, is annexed.—T. B.]

[c] Vide the plate in the Antiquities.

the latter frolicked and danced before them. Long might it have stood, had not the amazing tempest in 1703 overturned it at once, to the infinite regret of the inhabitants, and the vicar, who bestowed several pounds in setting it in it's place again: but all his care could not avail; the tree sprouted for a time, then withered and died. This oak I mention to show to what a bulk *planted oaks* also may arrive: and planted this tree must certainly have been, as will appear from what will be said farther concerning this area, when we enter on the antiquities of *Selborne*.

On the *Blackmoor* estate there is a small wood called *Losel's*, of a few acres, that was lately furnished with a set of oaks of a peculiar growth and great value; they were tall and taper like firs, but standing near together had very small heads, only a little brush without any large limbs. About twenty years ago the bridge at the *Toy*, near *Hampton Court*, being much decayed, some trees were wanted for the repairs that were fifty feet long without bough, and would measure twelve inches diameter at the little end. Twenty such trees did a purveyor find in this little wood, with this advantage, that many of them answered the description at sixty feet. These trees were sold for twenty pounds apiece*.

In the centre of this grove there stood an oak, which, though shapely and tall on the whole, bulged out into a large excrescence about the middle of the stem. On this a pair of ravens had fixed their residence for such a series of years, that the oak was distinguished by the title of *The Raven-tree*. Many were the attempts of the neighbouring youths to get at this *eyry:* the difficulty whetted their inclinations, and each was ambitious of surmounting the arduous task. But, when they arrived at the swelling, it jutted out so in their way, and was so far beyond their grasp, that the most daring lads were awed, and acknowledged the undertaking to be too hazardous. So the ravens built on, nest upon nest, in perfect security, till the fatal day arrived in which the wood was to be levelled. It

* [Much interesting information on the planting and growth of trees will be found in the letters of Mr. Marsham to Gilbert White, in the Appendix.—T. B.]

was in the month of *February*, when those birds usually sit. The saw was applied to the butt, the wedges were inserted into the opening, the woods echoed to the heavy blows of the beetle or mallet, the tree nodded to its fall; but still the dam sat on. At last, when it gave way, the bird was flung from her nest; and, though her parental affection deserved a better fate, was whipped down by the twigs, which brought her dead to the ground.

LETTER III.

TO THE SAME.

THE fossil-shells of this district, and sorts of stone, such as have fallen within my observation, must not be passed over in silence. And first I must mention, as a great curiosity, a specimen that was ploughed up in the chalky fields, near the side of the *Down*, and given to me for the singularity of it's appearance, which, to an incurious eye, seems like a petrified fish of about four inches long, the cardo passing for an head and mouth. It is in reality a *bivalve* of the *Linnæan Genus* of *Mytilus*, and the species of *Crista Galli;* called by *Lister*, *Rastellum;* by *Rumphius*, *Ostreum plicatum minus;* by *D'Argenville*, *Auris Porci*, s. *Crista Galli*, and by those who make collections *cock's comb*. Though I applied to several such in London, I never could meet with an entire specimen; nor could I ever find in books any engraving from a perfect one. In the superb *museum* at *Leicester-house*, permission was given me to examine for this article; and though I was disappointed as to the fossil, I was highly gratified with the sight of several of the shells themselves in high preservation. This bivalve is only known to inhabit the *Indian* ocean, where it fixes itself to a *zoophyte*, known by the name *Gorgonia*. The curious foldings of the suture the one into the other, the alternate flutings or grooves, and the curved form of my specimen being much easier expressed by the pencil than by words, I have caused it to be drawn and engraved*.

* [This fossil, as Mr. Bennett has already shown in his edition, " is not

Cornua Ammonis are very common about this village. As we were cutting an inclining path up *The Hanger*, the labourers found them frequently on that steep, just under the soil, in the chalk, and of a considerable size. In the lane above *Well-head*, in the way to *Emshot*, they abound in the bank, in a darkish sort of marl; and are usually very small and soft: but in *Clay's Pond*, a little farther on, at the end of the pit, where the soil is dug out for manure, I have occasionally observed them of large dimensions, perhaps fourteen or sixteen inches in diameter. But as these did not consist of firm stone, but were formed of a kind of *terra lapidosa*, or hardened clay, as soon as they were exposed to the rains and frost they mouldered away. These seemed as if they were a very recent production. In the chalk-pit, at the north-west end of *The Hanger*, large *nautili* are sometimes observed.

In the very thickest strata of our freestone, and at considerable depths, well-diggers often find large *scallops* or *pectines*, having both shells deeply striated, and ridged and furrowed alternately. They are highly impregnated with, if not wholly composed of, the stone of the quarry.

LETTER IV.

TO THE SAME.

As in a former letter the *freestone* of this place has been only mentioned incidentally, I shall here become more particular.

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the analogue of the cockscomb oyster, the *Mytilus Crista Galli* of Linnæus and *Ostrea Crista Galli* of Lamarck, but belongs to an altogether different species," the *Ostrea carinata* of the latter author. "Though both are plaited species, the plaits or folds are disposed in a manner altogether dissimilar in the two shells: in the cock's comb oyster they are in the longitudinal direction of the shell, * * * * in the keeled oyster they pass transversely on each side from a ridge which is continued along the middle of a considerably produced shell." Neither is it, as Mr. Bennett further remarks, a chalk fossil, but belongs to the Upper Greensand, of which the white malm of Selborne is a member.—T. B.]

This stone is in great request for hearth-stones and the beds of ovens: and in lining of lime-kilns it turns to good account; for the workmen use sandy loam instead of mortar; the sand of which fluxes,[d] and runs by the intense heat, and so cases over the whole face of the kiln with a strong vitrified coat like glass, that it is well preserved from injuries of weather, and endures thirty or forty years. When chiseled smooth, it makes elegant fronts for houses, equal in colour and grain to the *Bath* stone; and superior in one respect, that, when seasoned, it does not scale. Decent chimney-pieces are worked from it of much closer and finer grain than *Portland;* and rooms are floored with it; but it proves rather too soft for this purpose. It is a freestone, cutting in all directions; yet has something of a grain parallel with the horizon, and therefore should not be *surbedded*, but laid in the same position that it grows in the quarry.[e] On the ground abroad this fire-stone will not succeed for pavements, because, probably, some degree of saltness prevailing within it, the rain tears the slabs to pieces.[f] Though this stone is too hard to be acted on by vinegar; yet both the white part, and even the *blue rag*, ferments strongly in mineral acids. Though the white stone will not bear wet, yet in every quarry at intervals there are thin strata of *blue rag*, which resist rain and frost; and are excellent for pitching of stables, paths and courts, and for building of dry walls against banks; a valuable species of fencing, much in use in this village, and for mending of roads. This *rag* is rugged and stubborn, and will not hew to a smooth face; but is very durable: yet, as these strata are shallow and lie deep, large quantities cannot be procured but at considerable expense. Among the *blue rags* turn up some blocks tinged

[d] There may probably be also in the chalk itself that is burnt for lime a proportion of sand: for few chalks are so pure as to have none.

[e] To *surbed* stone is to set it edgewise, contrary to the posture it had in the quarry, says Dr. *Plot, Oxfordsh.* p. 77. But *surbedding* does not succeed in our dry walls; neither do we use it so in ovens, though he says it is best for *Teynton* stone.

[f] "Firestone is full of salts, and has no sulphur: must be close grained, "and have no interstices. Nothing supports fire like salts; saltstone "perishes exposed to wet and frost." *Plot's Staff.* p. 152.

with a stain of *yellow* or *rust colour*, which seem to be nearly as lasting as the blue; and every now and then balls of a friable substance, like rust of iron, called *rust balls*.

In *Wolmer Forest* I see but one sort of stone, called by the workmen *sand*, or *forest-stone*. This is generally of the colour of rusty iron, and might probably be worked as iron ore; is very hard and heavy, and of a firm, compact texture, and composed of a small roundish crystalline grit, cemented together by a brown, terrene, ferruginous matter; will not cut without difficulty, nor easily strike fire with steel. Being often found in broad flat pieces, it makes good pavement for paths about houses, never becoming slippery in frost or rain; is excellent for dry walls, and is sometimes used in buildings. In many parts of that waste it lies scattered on the surface of the ground; but is dug on *Weaver's Down*, a vast hill on the eastern verge of that forest, where the pits are shallow, and the stratum thin. This stone is imperishable*.

From a notion of rendering their work the more elegant, and giving it a finish, masons chip this stone into small fragments about the size of the head of a large nail; and then stick the pieces into the wet mortar along the joints of their freestone walls: this embellishment carries an odd appearance, and has occasioned strangers sometimes to ask us pleasantly, "whether we fastened our walls together with tenpenny nails"†.

* [On the property of my friend the Rev. George Cardew, called "The Wilds," and situated in the midst of a wild part of this district, the nodules of iron-stone have assumed the most extraordinary forms, many of them having the appearance of being ingeniously worked by the hands of skilful workmen. Mr. Cardew's collection of specimens, obtained from the excavations made in forming an extensive lake and other improvements on his grounds, are exceedingly interesting and curious.—T. B.]

† [This curious embellishment still exists in some old walls, and notably in the western wall of the church.—T. B.]

LETTER V.

TO THE SAME.

Among the singularities of this place the two rocky hollow lanes, the one to *Alton*, and the other to the forest, deserve our attention. These roads, running through the malm lands, are, by the traffick of ages, and the fretting of water, worn down through the first stratum of our freestone, and partly through the second; so that they look more like water-courses than roads; and are bedded with naked *rag* for furlongs together. In many places they are reduced sixteen or eighteen feet beneath the level of the fields; and after floods, and in frosts, exhibit very grotesque and wild appearances, from the tangled roots that are twisted among the strata, and from the torrents rushing down their broken sides; and especially when those cascades are frozen into icicles, hanging in all the fanciful shapes of frost-work. These rugged gloomy scenes affright the ladies when they peep down into them from the paths above, and make timid horsemen shudder while they ride along them; but delight the naturalist with their various botany, and particularly with their curious *filices* with which they abound.

The manor of *Selborne*, was it strictly looked after, with all it's kindly aspects, and all it's sloping coverts, would swarm with game; even now hares, partridges, and pheasants abound; and in old days woodcocks were as plentiful. There are few quails, because they more affect open fields than enclosures; after harvest some few land-rails are seen.

The parish of *Selborne*, by taking in so much of the forest, is a vast district. Those who tread the bounds are employed part of three days in the business, and are of opinion that the outline, in all its curves and indentings, does not comprise less than thirty miles.

The village stands in a sheltered spot, secured by *The*

Hanger from the strong westerly winds. The air is soft, but rather moist from the effluvia of so many trees; yet perfectly healthy and free from agues.

The quantity of rain that falls on it is very considerable, as may be supposed in so woody and mountainous a district. As my experience in measuring the water is but of short date, I am not qualified to give the mean quantity.[g] I only know that

	Inch.	Hund.
From May 1, 1779, to the end of the year there fell	28	37 !
From Jan. 1, 1780, to Jan. 1, 1781 „ „	27	32
From Jan. 1, 1781, to Jan. 1, 1782 „ „	30	71
From Jan. 1, 1782, to Jan. 1, 1783 „ „	50	26 !
From Jan. 1, 1783, to Jan. 1, 1784 „ „	33	71
From Jan. 1, 1784, to Jan. 1, 1785 „ „	33	80
From Jan. 1, 1785, to Jan. 1, 1786 „ „	31	55
From Jan. 1, 1786, to Jan. 1, 1787 „ „	39	57 *

The village of *Selborne*, and large hamlet of *Oakhanger*, with the single farms, and many scattered houses along the

[g] A very intelligent gentleman assures me (and he speaks from upwards of forty years' experience) that the mean rain of any place cannot be ascertained till a person has measured it for a very long period. "If I had "only measured the rain," says he, "for the four first years, from 1740 to "1743, I should have said the mean rain at *Lyndon* was 16½ inch for the "year; if from 1740 to 1750, 18½ inches. The mean rain before 1763 was "20¼; from 1763 and since, 25½; from 1770 to 1780, 26. If only 1773, "1774 and 1775, had been measured, *Lyndon* mean rain would have been "called 32 inches."

[The gentleman here alluded to was Thomas Barker, Esq., of Lyndon Hall, in the county of Rutland, Gilbert White's brother-in-law.—T. B.]

* [That the local circumstances of Selborne, surrounded by hills, and many of those hills more or less covered with trees, are the cause of the high rate of rainfall to which it is subject, cannot be doubted; and the results given in the text are fully borne out by a long succession of observations carefully made by myself. The annual average for 25 years, from 1850 to 1874 inclusive, amounts to 32·074 inches. In the year 1852 there fell 48·81 inches; and in 1873, 49·56, which is the largest amount I have recorded, slightly surpassed, however, by that mentioned in the text for 1782, amounting to 50·26. On a comparison with a large number of other places in various parts of the kingdom, the monthly reports contained in Mr. Symons's interesting Meteorological Journal, show that, eliminating such exceptional localities as Seathwaite, &c., the fall of rain at Selborne is much above the average.—T. B.]

verge of the forest, contain upwards of six hundred and seventy inhabitants.[h] We abound with poor; many of whom

[h] *A STATE of the Parish of SELBORNE, taken October* 4, 1783.

The number of tenements or families, 136.

The number of inhabitants in the street is	313	Total 676; near five inhabitants to each tenement.	
In the rest of the parish	363		

In the time of the Rev. *Gilbert White*, vicar, who died in 1727–8, the number of inhabitants was computed at about 500.

Average of baptisms for 60 years.

From 1720 to 1729, both years inclusive	Males	6,9	12,9
	Females	6,0	
From 1730 to 1739, both years inclusive	Males	8,2	15,3
	Females	7,1	
From 1740 to 1749, inclusive	Males	9,2	15,8
	Females	6,6	
From 1750 to 1759, inclusive	Males	7,6	15,7
	Females	8,1	
From 1760 to 1769, inclusive	Males	9,1	18,0
	Females	8,9	
From 1770 to 1779, inclusive	Males	10,5	20,3
	Females	9,8	
Total of baptisms of	Males	515	980
	Females	465	

Total of baptisms from 1720 to 1779, both inclusive..60 years .. 980.

Average of burials for 60 years.

From 1720 to 1729, both years inclusive	Males	4,8	9,9
	Females	5,1	
From 1730 to 1739, both years inclusive	Males	4,8	10,6
	Females	5,8	
From 1740 to 1749, inclusive	Males	4,6	8,4
	Females	3,8	
From 1750 to 1759, inclusive	Males	4,9	10,0
	Females	5,1	
From 1760 to 1769, inclusive	Males	6,9	13,4
	Females	6,5	
From 1770 to 1779, inclusive	Males	5,0	11,7
	Females	6,0	
Total of burials of	Males	315	640
	Females	325	

Total of burials from 1720 to 1779, both inclusive..60 years..640.

Baptisms exceed burials by more than one third.

are sober and industrious, and live comfortably in good stone or brick cottages, which are glazed, and have chambers above stairs: mud buildings we have none. Besides the employment from husbandry, the men work in hop gardens, of which we have many; and fell and bark timber. In the

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Baptisms of Males exceed Females by one tenth, or one in ten.
Burials of Females exceed Males by one in thirty.
It appears that a child, born and bred in this parish, has an equal chance to live above forty years.
Twins thirteen times, many of whom dying young have lessened the chances for life.
Chances for life in men and women appear to be equal.

A TABLE *of the* Baptisms, Burials, *and* Marriages, *from* January 2, 1761, *to* December 25, 1780, *in the* Parish *of* SELBORNE.

	BAPTISMS.			BURIALS.			MAR.
	Males.	Females.	Total.	Males.	Females.	Total.	
1761.	8	10	18	2	4	6	3
1762.	7	8	15	10	14	24	6
1763.	8	10	18	3	4	7	5
1764.	11	9	20	10	8	18	6
1765.	12	6	18	9	7	16	6
1766.	9	13	22	10	6	16	4
1767.	14	5	19	6	5	11	2
1768.	7	6	13	2	5	7	6
1769.	9	14	23	6	5	11	2
1770.	10	13	23	4	7	11	3
1771.	10	6	16	3	4	7	4
1772.	11	10	21	6	10	16	3
1173.	8	5	13	7	5	12	3
1774.	6	13	19	2	1	10	1
1775.	20	7	27	13	8	21	6
1776.	11	10	21	4	6	10	6
1777.	8	13	21	7	3	10	4
1778.	7	13	20	3	4	7	5
1779.	14	8	22	5	6	11	5
1780.	8	9	17	11	4	15	3
	198	188	386	123	123	246	83

During this period of twenty years the births of males exceeded those of females .. 10.
The burials of each sex were equal.
And the births exceeded the deaths .. 140.

spring and summer the women weed the corn; and enjoy a second harvest in September by hop-picking. Formerly, in the dead months they availed themselves greatly by spinning wool, for making of *barragons*, a genteel corded stuff, much in vogue at that time for summer wear; and chiefly manufactured at *Alton*, a neighbouring town, by some of the people called Quakers: but from circumstances this trade is at an end.[1] The inhabitants enjoy a good share of health and longevity; and the parish swarms with children*.

LETTER VI.

TO THE SAME.

SHOULD I omit to describe with some exactness the *forest* of *Wolmer*, of which three fifths perhaps lie in this parish, my

[1] Since the passage above was written, I am happy in being able to say that the spinning employment is a little revived, to the no small comfort of the industrious housewife.

* [Between September 1854, and July 1855, there died in Selborne three persons, two men and a woman, at the age of 90, they having been born within one year. The latter was mistress of a very respectable dame's school, where she continued to teach until a short time before her death. She had a perfect recollection of Gilbert White, and had, I believe, been formerly a servant at the Vicarage. A still more remarkable instance occurred in a woman of the name of Gilman, who died at Selborne about the year 1860, being then in her 100th year. When she was 98, we missed her one Sunday afternoon from church, where she was so regular an attendant that we concluded that no other cause than illness would occasion her absence. We therefore called at her cottage, and found her in perfect health, with her daughter, who was then about 70; and we were told that she had been to church at Newton Valence, more than a mile distant, having had to climb Selborne Hill, 300 feet high, had gone half a mile further to dine with her brother; and her daughter added, "I assure you she outran me across the common as we came home." There were recently living in the parish eight persons whose average age was 85½; and the average number of deaths in a population of 1100 has not been more than 12 annually.—T. B.]

account of *Selborne* would be very imperfect, as it is a district abounding with many curious productions, both animal and vegetable; and has often afforded me much entertainment both as a sportsman and as a naturalist.

The royal *forest* of *Wolmer* is a tract of land of about seven miles in length, by two and a half in breadth, running nearly from North to South, and is abutted on, to begin to the South, and so to proceed eastward, by the parishes of *Greatham*, *Lysse*, *Rogate*, and *Trotton*, in the county of *Sussex;* by *Bramshot*, *Hedleigh*, and *Kingsley*. This royalty consists entirely of sand covered with heath and fern; but is somewhat diversified with hills and dales, without having one standing tree in the whole extent. In the bottoms, where the waters stagnate, are many bogs, which formerly abounded with subterraneous trees; though Dr. *Plot* says positively,[k] that "there never were any fallen trees hidden in the mosses "of the southern counties." But he was mistaken: for I myself have seen cottages on the verge of this wild district, whose timbers consisted of a black hard wood, looking like oak, which the owners assured me they procured from the bogs by probing the soil with spits, or some such instruments: but the peat is so much cut out, and the moors have been so well examined, that none has been found of late.[l] Besides the

[k] See his Hist. of *Staffordshire.*

[l] Old people have assured me, that on a winter's morning they have discovered these trees, in the bogs, by the hoar frost, which lay longer over the space where they were concealed, than on the surrounding morass. Nor does this seem to be a fanciful notion, but consistent with true philosophy. Dr. *Hales* saith, "That the warmth of the earth, at "some depth under ground, has an influence in promoting a thaw, as well as "the change of the weather from a freezing to a thawing state, is manifest, "from this observation, viz. Nov. 29, 1731, a little snow having fallen in "the night, it was, by eleven the next morning, mostly melted away on "the surface of the earth, except in several places in *Bushy-park*, where "there were *drains* dug and covered with earth, on which the snow con-"tinued to lie, whether those drains were full of water or dry; as also "where *elm-pipes* lay under ground: a plain proof this, that those drains "intercepted the warmth of the earth from ascending from greater depths "below them: for the snow lay where the drain had more than four feet "depth of earth over it. It continued also to lie on thatch, tiles,

oak, I have also been shewn pieces of fossil-wood of a paler colour, and softer nature, which the inhabitants called fir: but, upon a nice examination, and trial by fire, I could discover nothing resinous in them; and therefore rather suppose that they were parts of a willow or alder, or some such aquatic tree*.

This lonely domain is a very agreeable haunt for many sorts of wild fowls, which not only frequent it in the winter, but breed there in the summer; such as lapwings, snipes, wild-ducks, and, as I have discovered within these few years, teals. Partridges in vast plenty are bred in good seasons on the verge of this forest, into which they love to make excursions: and in particular, in the dry summer of 1740 and 1741, and some years after, they swarmed to such a degree, that parties

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"and the tops of walls." See *Hales*'s Hæmastatics, p. 360. Quere, Might not such observations be reduced to domestic use, by promoting the discovery of old obliterated drains and wells about houses; and in Roman stations and camps lead to the finding of pavements, baths and graves, and other hidden relics of curious antiquity?

* [The discovery of bog-oak and other woods in the peat of Wolmer Forest is now more rare than it was formerly, in consequence of the old custom of digging peat for fuel being now forbidden. The extensive excavations which have been made by the Rev. George Cardew in the formation of the large lake already alluded to, have, however, been the means of bringing to light considerable quantities of these interesting substances, of which Mr. Cardew has kindly furnished me with the following details:—"In the entire of the bog which is still in part the floor of my lake at 'The Wilds,' a very large quantity of wood in a charred or carbonized state was found. Alder, fir (apparently Scotch), birch, and hazel were the most abundant kinds, and these I repeatedly saw myself. I often asked the excavators whether they had found any oak, and they always said they had, though not in any abundance. I cannot recollect having seen any myself; but I may have done so. . . . The peat deposit consisted mainly of myriads of small twigs and matted leaves. Not only the cones of the firs were preserved in great numbers, but also between the layers of the tightly compressed leaves the seeds of the birch and alder were to be discerned in myriads, with other interesting things, such as the nuts of the hazel, sometimes squirrel-gnawed or split, and fragments of beetles and other insects." Mr. Cardew adds facts which appear to him satisfactory evidence of repeated conflagrations in the ancient forest.—T. B.]

of unreasonable sportsmen killed twenty and sometimes thirty brace in a day.

But there was a nobler species of game in this forest, now extinct, which I have heard old people say abounded much before shooting flying became so common, and that was the *heath-cock*, *black game*, or *grouse*. When I was a little boy I recollect one coming now and then to my father's table. The last pack remembered was killed about thirty-five years ago; and within these ten years one solitary *grey hen* was sprung by some beagles in beating for a hare. The sportsmen cried out, "A hen pheasant;" but a gentleman present, who had often seen grouse in the north of England, assured me that it was a grey hen*.

Nor does the loss of our black game prove the only gap in the *Fauna Selborniensis;* for another beautiful link in the chain of beings is wanting, I mean the *red deer*, which toward the beginning of this century amounted to about five hundred head, and made a stately appearance. There is an old keeper, now alive, named *Adams*, whose great grandfather (mentioned in a perambulation taken in 1635) grandfather, father and self, enjoyed the head keepership of *Wolmer forest* in succession for more than an hundred years. This person assures me, that his father has often told him, that Queen *Anne*, as she was journeying on the *Portsmouth* road, did not think the forest of *Wolmer* beneath her royal regard. For she came out of the great road at *Lippock*, which is just by, and reposing herself on a bank smoothed for that purpose, lying about half a mile to the east of *Wolmer-pond*, and still called *Queen's-bank*, saw with great complacency and satisfaction the whole herd of red deer brought by the keepers along the vale before her, consisting then of about five hundred head. A sight this worthy the attention of the greatest sovereign! But he further adds that, by means of the *Waltham blacks*, or, to use his own expression, as soon as they began *blacking*, they were reduced to about fifty head, and so continued decreasing

* [That the black grouse is still occasionally met with at Wolmer is well attested, and this not as the result of any recent importation from other localities, but as voluntary visitants.—T. B.]

till the time of the late Duke of *Cumberland*. It is now more than thirty years ago that his highness sent down an huntsman, and six yeomen-prickers, in scarlet jackets laced with gold, attended by the stag-hounds; ordering them to take every deer in this forest alive, and convey them in carts to *Windsor*. In the course of the summer they caught every stag, some of which showed extraordinary diversion: but, in the following winter, when the hinds were also carried off, such fine chases were exhibited as served the country people for matter of talk and wonder for years afterwards. I saw myself one of the yeomen-prickers single out a stag from the herd, and must confess that it was the most curious feat of activity I ever beheld, superior to any thing in Mr. *Astley*'s riding-school. The exertions made by the horse and deer much exceeded all my expectations; though the former greatly excelled the latter in speed. When the devoted deer was separated from his companions, they gave him, by their watches, law, as they called it, for twenty minutes; when, sounding their horns, the stop-dogs were permitted to pursue, and a most gallant scene ensued.

LETTER VII.

TO THE SAME.

Though large herds of deer do much harm to the neighbourhood, yet the injury to the morals of the people is of more moment than the loss of their crops. The temptation is irresistible; for most men are sportsmen by constitution: and there is such an inherent spirit for hunting in human nature, as scarce any inhibitions can restrain. Hence, towards the beginning of this century, all this country was wild about deer-stealing. Unless he was a *hunter*, as they affected to call themselves, no young person was allowed to be possessed of manhood or gallantry. The *Waltham blacks* at length committed such enormities, that government was forced to inter-

fere with that severe and sanguinary act called the *black act*,[m] which now comprehends more felonies than any law that ever was framed before. And, therefore, a late bishop of *Winchester*, when urged to re-stock *Waltham Chase*,[n] refused, from a motive worthy of a prelate, replying that "It had done mischief enough already."

Our old race of deer-stealers are hardly extinct yet: it was but a little while ago that, over their ale, they used to recount the exploits of their youth; such as watching the pregnant hind to her lair, and, when the calf was dropped, paring it's feet with a penknife to the quick to prevent it's escape, till it was large and fat enough to be killed; the shooting at one of their neighbours with a bullet in a turnip-field by moonshine, mistaking him for a deer; and the losing a dog in the following extraordinary manner:—Some fellows, suspecting that a calf new-fallen was deposited in a certain spot of thick fern, went, with a lurcher, to surprise it; when the parent-hind rushed out of the brake, and, taking a vast spring with all her feet close together, pitched upon the neck of the dog, and broke it short in two.

Another temptation to idleness and sporting, was a number of rabbits, which possessed all the hillocks and dry places: but these being inconvenient to the huntsmen, on account of their burrows, when they came to take away the deer, they permitted the country-people to destroy them all.

Such forests and wastes, when their allurements to irregularities are removed, are of considerable service to neighbourhoods that verge upon them, by furnishing them with peat and turf for their firing; with fuel for the burning their lime; and with ashes for their grasses; and by maintaining their geese and their stock of young cattle at little or no expense.

The manor farm of the parish of *Greatham* has an admitted claim, I see, (by an old record taken from the *Tower of London*) of turning all live stock on the forest, at proper seasons,

[m] Statute 9 Geo. I. c. 22.

[n] This chase remains unstocked to this day. The bishop was Dr. *Hoadly*.

bidentibus exceptis.[o] The reason, I presume, why sheep[p] are excluded, is, because, being such close grazers, they would pick out all the finest grasses, and hinder the deer from thriving.

Though (by statute 4 and 5 *W.* and *Mary*) c. 23. "to burn "on any waste, between *Candlemas* and *Midsummer*, any grig, "ling, heath and furze, goss or fern, is punishable with whip- "ping and confinement in the house of correction;" yet, in this forest, about *March* or *April*, according to the dryness of the season, such vast heath-fires are lighted up, that they often get to a masterless head, and, catching the hedges, have sometimes been communicated to the underwoods, woods, and coppices, where great damage has ensued. The plea for these burnings is, that, when the old coat of heath, &c. is consumed, young will sprout up, and afford much tender brouze for cattle; but, where there is large old furze, the fire, following the roots, consumes the very ground; so that for hundreds of acres nothing is to be seen but smother and desolation, the whole circuit round looking like the cinders of a volcano; and, the soil being quite exhausted, no traces of vegetation are to be found for years. These conflagrations, as they take place usually with a north-east or east wind, much annoy this village with their smoke, and often alarm the country; and, once in particular, I remember that a gentleman, who lives beyond *Andover*, coming to my house, when he got on the downs between that town and *Winchester*, at twenty-five miles distance, was surprised much with smoke and a hot smell of fire; and concluded that *Alresford* was in flames; but, when he came to that town, he then had apprehensions for the next village, and so on to the end of his journey.

On two of the most conspicuous eminences of this forest, stand two *arbours* or *bowers*, made of the boughs of oaks; the one called *Waldon-lodge*, the other *Brimstone-lodge:* these the keepers renew annually on the feast of St. *Barnabas*,

[o] For this privilege the owner of that estate used to pay to the king annually seven bushels of oats.

[p] In *The Holt*, where a full stock of fallow-deer has been kept up till lately, no sheep are admitted to this day.

taking the old materials for a perquisite. The farm called *Blackmoor*, in this parish, is obliged to find the posts and brush-wood for the former; while the farms at *Greatham*, in rotation, furnish for the latter; and are all enjoined to cut and deliver the materials at the spot. This custom I mention, because I look upon it to be of very remote antiquity.

LETTER VIII.

TO THE SAME.

On the verge of the forest, as it is now circumscribed, are three considerable lakes, two in *Oakhanger*, of which I have nothing particular to say; and one called *Bin's*, or *Bean's pond*, which is worthy the attention of a naturalist or a sportsman. For, being crowded at the upper end with willows, and with the *carex cespitosa*,[q] it affords such a safe and pleasing shelter to wild ducks, teals, snipes, &c. that they breed there. In the winter this covert is also frequented by foxes, and sometimes by pheasants; and the bogs produce many curious plants*. [For which consult letter XLII. to Mr. *Barrington*]

By a *perambulation* of *Wolmer forest* and *The Holt*, made in 1635, and in the eleventh year of *Charles* the First (which now lies before me), it appears that the limits of the former are much circumscribed. For, to say nothing of the farther side, with which I am not so well acquainted, the bounds on this side, in old times, came into *Binswood;* and extended to the ditch of *Ward le ham-park*, in which stands the curious mount called *King John's Hill*, and *Lodge Hill;* and to the verge of *Hartley Mauduit*, called *Mauduit-hatch;* comprehending also *Short-heath*, *Oakhanger*, and *Oakwoods;* a large

[q] I mean that sort which, rising into tall hassocks, is called by the foresters *torrets*; a corruption, I suppose, of turrets.

Note, In the beginning of the summer 1787 the royal forests of *Wolmer* and *Holt* were measured by persons sent down by government.

* [See the list of plants in the Appendix.—T. B.]

district, now private property, though once belonging to the royal domain.

It is remarkable that the term *purlieu* is never once mentioned in this long roll of parchment. It contains, besides the *perambulation*, a rough estimate of the value of the timbers, which were considerable, growing at that time in the district of *The Holt;* and enumerates the officers, superior and inferior, of those joint forests, for the time being, and their ostensible fees and perquisites. In those days, as at present, there were hardly any trees in *Wolmer forest.*

Within the present limits of the forest are three considerable lakes, *Hogmer*, *Cranmer*, and *Wolmer;* all of which are stocked with carp, tench, eels, and perch: but the fish do not thrive well, because the water is hungry, and the bottoms are a naked sand*.

A circumstance respecting these ponds, though by no means peculiar to them, I cannot pass over in silence; and that is, that instinct by which in summer all the kine, whether oxen, cows, calves, or heifers, retire constantly to the water during the hotter hours; where, being more exempt from flies, and inhaling the coolness of that element, some belly deep, and some only to mid-leg, they ruminate and solace themselves from about ten in the morning till four in the afternoon, and then return to their feeding. During this great proportion of the day they drop much dung, in which insects nestle; and so supply food for the fish, which would be poorly subsisted but from this contingency. Thus Nature, who is a great economist, converts the recreation of one animal to the support of another! *Thomson*, who was a nice observer of natural occurrences, did not let this pleasing circumstance escape him. He says, in his *Summer*,

* ["It is remarkable that these three ponds are named respectively after three animals which, formerly indigenous in this country, are now extinct. *Hogmer*, after the wild boar, *Cranmer*, after the crane, and *Wolmer*, anciently Wolvemere, after the wolf, which doubtless formerly haunted this wild district. The fish mentioned in the text are now, I believe, quite extinct in these ponds."—T. B. in a note to the edition published by the Society for Promoting Christian Knowledge.]

"A various group the herds and flocks compose:
"———————— on the grassy bank
"Some ruminating lie; while others stand
"Half in the flood, and, often bending, sip
"The circling surface."

Wolmer-pond, so called, I suppose, for eminence sake, is a vast lake for this part of the world, containing, in it's whole circumference, 2646 yards, or very near a mile and an half. The length of the north-west and opposite side is about 704 yards, and the breadth of the south-west end about 456 yards. This measurement, which I caused to be made with good exactness, gives an area of about sixty-six acres, exclusive of a large irregular arm at the north-east corner, which we did not take into the reckoning.

On the face of this expanse of waters, and perfectly secure from fowlers, lie all day long, in the winter season, vast flocks of ducks, teals, and wigeons, of various denominations; where they preen and solace, and rest themselves, till towards sun-set, when they issue forth in little parties (for in their natural state they are all birds of the night) to feed in the brooks and meadows; returning again with the dawn of the morning. Had this lake an arm or two more, and were it planted round with thick covert (for now it is perfectly naked), it might make a valuable decoy.

Yet neither its extent, nor the clearness of it's water, nor the resort of various and curious fowls, nor it's picturesque groups of cattle, can render this *meer* so remarkable as the great quantity of coins that were found in its bed about forty years ago. But, as such discoveries more properly belong to the *antiquities* of this place, I shall suppress all particulars for the present, till I enter professedly on my series of letters respecting the more remote history of this village and district.

LETTER IX.

TO THE SAME.

By way of supplement, I shall trouble you once more on this subject, to inform you that *Wolmer*, with her sister forest *Ayles Holt*, alias *Alice Holt*,[q] as it is called in old records, is held by grant from the crown for a term of years.

The grantees that the author remembers are Brigadier-General *Emanuel Scroope Howe*, and his lady, *Ruperta*, who was a natural daughter of Prince *Rupert* by *Margaret Hughs;* a Mr. *Mordaunt*, of the *Peterborough* family, who married a dowager Lady *Pembroke*; *Henry Bilson Legge* and lady; and now Lord *Stawel*, their son.

The lady of General *Howe* lived to an advanced age, long surviving her husband; and, at her death, left behind her many curious pieces of mechanism of her father's constructing, who was a distinguished mechanic and artist,[r] as well as warrior; and, among the rest, a very complicated clock, lately in possession of Mr. *Elmer*, the celebrated game-painter at *Farnham*, in the county of *Surrey*.

Though these two forests are only parted by a narrow range of enclosures, yet no two soils can be more different: for *The Holt* consists of a strong loam, of a miry nature, carrying a good turf, and abounding with oaks that grow to be large timber; while *Wolmer* is nothing but a hungry, sandy, barren waste.

The former, being all in the parish of *Binsted*, is about two miles in extent from north to south, and near as much from east to west, and contains within it many woodlands and

[q] "In Rot. Inquisit. de statu forest. in Scaccar. 36. Ed. 3. it is called *Aisholt*."

In the same, "Tit. *Woolmer* and *Aisholt* Hantisc. Dominus Rex habet "unam capellam in *haia* suâ de Kingesle." "*Haia, sepes, sepimentum,* "*parcus:* a Gall. *haie* and *haye*." Spelman's Glossary.

[r] This prince was the inventor of *mezzotinto*.

lawns, and the *great lodge* where the grantees reside; and a smaller lodge, called *Goose-green;* and is abutted on by the parishes of *Kingsley*, *Frinsham*, *Farnham*, and *Bentley;* all of which have right of common.

One thing is remarkable; that, though *The Holt* has been of old well-stocked with fallow-deer, unrestrained by any pales or fences more than a common hedge, yet they were never seen within the limits of *Wolmer;* nor were the red deer of *Wolmer* ever known to haunt the thickets or glades of *The Holt.*

At present the deer of *The Holt* are much thinned and reduced by the night-hunters, who perpetually harass them in spite of the efforts of numerous keepers, and the severe penalties that have been put in force against them as often as they have been detected, and rendered liable to the lash of the law. Neither fines nor imprisonments can deter them: so impossible is it to extinguish the spirit of sporting, which seems to be inherent in human nature.

General *Howe* turned out some *German* wild boars and sows in his forests, to the great terror of the neighbourhood; and, at one time, a wild bull or buffalo: but the country rose upon them and destroyed them.

A very large fall of timber, consisting of about one thousand oaks, has been cut this spring (viz. 1784) in *The Holt forest*; one fifth of which, it is said, belongs to the grantee, Lord *Stawel.* He lays claim also to the lop and top: but the poor of the parishes of *Binsted* and *Frinsham*, *Bentley* and *Kingsley*, assert that it belongs to them; and, assembling in a riotous manner, have actually taken it all away. One man, who keeps a team, has carried home, for his share, forty stacks of wood. Forty-five of these people his lordship has served with actions. These trees, which were very sound and in high perfection, were *winter-cut*, viz. in *February* and *March*, before the bark would run. In old times *The Holt* was estimated to be eighteen miles, computed measure, from water-carriage, *viz.* from the town of *Chertsey*, on the *Thames;* but now it is not half that distance, since the *Wey* is made navigable up to the town of *Godalming* in the county of *Surrey.*

LETTER X.*

TO THE SAME.

August 4, 1767.

It has been my misfortune never to have had any neighbours whose studies have led them towards the pursuit of natural knowledge; so that, for want of a companion to quicken my industry and sharpen my attention, I have made but slender progress in a kind of information to which I have been attached from my childhood.

As to *swallows* (*hirundines rusticæ*) being found in a torpid state during the winter in the isle of *Wight*, or any part of this country, I never heard any such account worth attending to. But a clergyman, of an inquisitive turn, assures me, that, when he was a great boy, some workmen, in pulling down the battlements of a church tower early in the spring, found two or three *swifts (hirundines apodes)* among the rubbish, which were, at first appearance, dead, but, on being carried toward the fire, revived. He told me that, out of his great care to preserve them, he put them in a paper bag, and hung them by the kitchen fire, where they were suffocated.

Another intelligent person has informed me that, while he

* [The original of this letter, the first ever written to Pennant by Gilbert White, commences with the following passage, omitted in the copy as sent to the printer:—

"Nothing but the obliging notice which you were so kind as to take of my trifling observations in the natural way when I was in town in the spring, and your repeated mention of me in some late letters to my brother, could have emboldened me to enter into a correspondence with you, in which, though my vanity cannot suggest to me that I shall send any information worthy your attention, yet the communication of my thoughts to a gentleman so distinguished for these kinds of studies will unavoidably be attended with satisfaction and improvement on my side." At this time so little was he acquainted with Pennant, that he did not know his Christian name, and the letter is addressed "To —— Pennant, Esq., at Downing, in Flintshire, North Wales."—T. B.]

was a schoolboy at *Brighthelmstone*, in *Sussex*, a great fragment of the chalk-cliff fell down one stormy winter on the beach; and that many people found *swallows* among the rubbish; but, on my questioning him whether he saw any of those birds himself; to my no small disappointment, he answered me in the negative; but that others assured him they did.

Young broods of *swallows* began to appear this year on *July* the 11th, and young *martins (hirundines urbicæ)* were then fledged in their nests. Both species will breed again once. For I see by my *fauna* of last year, that young broods came forth so late as *September* the eighteenth. Are not these late hatchings more in favour of hiding than migration? Nay, some young martins remained in their nests last year so late as *September* the twenty-ninth; and yet they totally disappeared with us by the fifth of *October*.

How strange is it that the *swift*, which seems to live exactly the same life with the *swallow* and *house-martin*, should leave us before the middle of *August* invariably! while the latter stay often till the middle of *October;* and once I saw numbers of house-martins on the seventh of *November* *. The

* [In Mr. Bennett's edition, Mr. Yarrell has the following note:—"Upwards of a hundred of these birds, collected and apparently going off, were seen on the 13th of November 1831 at Dover." In Letter XXI. (page 60) White states that "one of his neighbours saw a martin in a sheltered bottom on the 26th of November hawking briskly after flies," and deduces from this fact a confirmation of his belief "that they do not all leave this island in the winter." The following note from my friend Montague Knight, Esq., of Chawton House, about four miles from Selborne, shows a very remarkable delay; it is dated November 22, 1873:—"Are not swallows and martins very late in taking their departure this year? I saw some swallows here on the 12th instant, and yesterday, the 21st, was much surprised to see some six or seven house-martins wheeling round the house. On both occasions the weather was bright and sunny. Gilbert White would have said that they were attracted by the sun from their hiding-places."

On the reappearance of swallows after their temporary departure, I find the following remarks in my notes of the year 1862:—"Oct. 10th. The swallows disappeared in general this day. Oct. 26th. The swallows reappeared this morning in hundreds, and were very active. All were young birds apparently, as the tails were all short. 27th. Most of the

martins and *red-wing fieldfares* were flying in sight together; an uncommon assemblage of summer and winter-birds.

A little yellow bird (it is either a species of the *alauda trivialis*, or rather perhaps of the *motacilla trochilus*) still continues to make a sibilous shivering noise in the tops of tall woods. The *stoparola* of *Ray* (for which we have as yet no name in these parts) is called, in your *Zoology*, the *fly-catcher*. There is one circumstance characteristic of this bird, which seems to have escaped observation, and that is, that it takes it's stand on the top of some stake or post, from whence it springs forth on it's prey, catching a fly in the air, and hardly ever touching the ground, but returning still to the same stand for many times together.

I perceive there are more than one species of the *motacilla trochilus:* Mr. *Derham* supposes, in *Ray's Philos. Letters*, that he has discovered three. In these there is again an instance of some very common birds that have as yet no *English* name.

Mr. *Stillingfleet* makes a question whether the *black-cap (motacilla atricapilla)* be a bird of passage or not: I think there is no doubt of it: for, in *April*, in the very first fine weather, they come trooping, all at once, into these parts, but are never seen in the winter. They are delicate songsters.

Numbers of *snipes* breed every summer in some moory ground on the verge of this parish. It is very amusing to see the cock bird on wing at that time, and to hear his piping and humming notes.

I have had no opportunity yet of procuring any of those mice which I mentioned to you in town. The person that brought me the last says they are plenty in harvest, at which time I will take care to get more; and will endeavour to

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swallows have again disappeared. 28th. The swallows have entirely vanished. It is probable that the swallows which thus reappeared after more than a fortnight's absence, being young, and consequently with comparatively less powers of flight, were driven back from the coast by the tempestuous winds from the southward, which have prevailed for nearly that period, and that they returned to make a more successful attempt at migration on the occurrence of more tranquil weather."—T. B.]

put the matter out of doubt, whether it be a non-descript species or not.

I suspect much there may be two species of water-rats. *Ray* says, and *Linnæus* after him, that the water-rat is web-footed behind. Now I have discovered a rat on the banks of our little stream that is not web-footed, and yet is an excellent swimmer and diver: it answers exactly to the *mus amphibius* of *Linnæus* (See *Syst. Nat.)* which he says "*natat in fossis et urinatur.*" I should be glad to procure one "*plantis palmatis.*" *Linnæus* seems to be in a puzzle about his *mus amphibius*, and to doubt whether it differs from his *mus terrestris;* which if it be, as he allows, the "*mus agrestis capite grandi brachyuros*" of *Ray*, is widely different from the water-rat, both in size, make, and manner of life *.

As to the *falco*, which I mentioned in town, I shall take the liberty to send it down to you into *Wales;* presuming on your candour, that you will excuse me if it should appear as familiar to you as it is strange to me. Though mutilated "*qualem dices . . . antehac fuisse, tales cum sint reliquiæ!*"

It haunted a marshy piece of ground in quest of wild-ducks and snipes: but, when it was shot, had just knocked down a rook, which it was tearing in pieces. I cannot make it answer to any of our *English* hawks; neither could I find any like it at the curious exhibition of stuffed birds in *Spring-*

* [This confusion, as Mr. Bennett observes, was orignated by Willughby, copied by Ray, and appears to have given rise to the complication by Linnæus from which White's doubts and perplexities were derived. The fact is that the *water-vole*, as it ought to be called, is, on the one hand, quite distinct from the family MURIDÆ, to which the rats belong, in structure as well as in habits; and on the other, the hinder feet are not webbed, though the toes are connected to a short distance from the base.

The water-vole frequented both the streams of the village, near their junction, a few years ago; and I have repeatedly seen it sporting in that which runs through the meadow below the vicarage. I have not, however, seen one for some years past, and believe that it has become extinct, though its holes still remain in the bank. The common brown rat, from its power of swimming well, appears to have given rise to some mistakes among the inhabitants of the place, who have occasionally confounded the two animals.—T. B.]

Gardens. I found it nailed up at the end of a barn, which is the countryman's museum.

The parish I live in is a very abrupt, uneven country, full of hills and woods, and therefore full of birds.

LETTER XI.

TO THE SAME.

Selborne, September 9, 1767.

It will not be without impatience that I shall wait for your thoughts with regard to the *falco;* as to it's weight, breadth, &c. I wish I had set them down at the time: but, to the best of my remembrance, it weighed two pounds and eight ounces, and measured, from wing to wing, thirty-eight inches. It's *cere* and feet were yellow, and the circle of it's eyelids a bright yellow. As it had been killed some days, and the eyes were sunk, I could make no good observation on the colour of the pupils and the *irides.*

The most unusual birds I ever observed in these parts were a pair of *hoopoes (upupa)* which came several years ago in the summer, and frequented an ornamented piece of ground, which joins to my garden, for some weeks. They used to march about in a stately manner, feeding in the walks, many times in the day; and seemed disposed to breed in my outlet; but were frighted and persecuted by idle boys, who would never let them be at rest *.

Three *gross-beaks (loxia coccothraustes)* appeared some years ago in my fields, in the winter; one of which I shot:

* [On the 3rd of May 1853, as I was driving towards Alton, just on entering the parish of Hartley Maudytt, a hoopoe rose from behind a hedge on my right, came over into the road, and continued its flight at a short distance before my ponies' heads for about fifty yards, when it disappeared over the hedge on my left. From the time of year at which it occurred, it is very probable that it had a mate. The late Capt. Chawner, of Newton Manor House, informed me that one had been seen at Newton; and Dr. John Curtis names Ropley and Wield, both in this neigbourhood, as having been visited by them. It must, however, be considered as amongst our rarest visitants. Mr. Yarrell mentions three instances of this bird having bred in England.—T. B.]

since that, now and then one is occasionally seen in the same dead season *.

A *cross-bill (loxia curvirostra)* was killed last year in this neighbourhood †.

Our streams, which are small, and rise only at the end of the village, yield nothing but the *bull's head* or *miller's thumb (gobius fluviatilis capitatus ‡)*, the *trout (trutta fluviatilis §)*, the *eel (anguilla ‖)*, the *lampern (lampœtra parva et fluviatilis ¶)*, and the *stickle-back (pisciculus aculeatus **)*.

* [The hawfinch, *Coccothraustes vulgaris*, has repeatedly made its appearance at Selborne, and at different seasons of the year. On the 27th of August 1859 I picked up on my lawn the wings and some feathers of one, which had probably been killed by a cat. I had once before seen one in the same situation. In September 1867 a pair flew across the lawn, and settled in a large *Abies Douglassii*, which, with other conifers, may possibly be the attractive cause of their frequent visits to this place. A very respectable inhabitant of Selborne has two of them stuffed, both of which were killed many years ago in my premises; and in January 1871 one was picked up dead under a yew tree, also on my lawn. I have seen it at Chawton; and the late Capt. Chawner, an excellent observer, assured me that they have repeatedly bred at Newton Valence, in his park.—T. B.]

† [I have every assurance that the Cross-bill has more than once been seen in the neighbourhood of Selborne since the time mentioned by White. I have heard of its occurrence at Newton Valence, but have never had personal proof of the fact. The very interesting description by Mr. Yarrell, of the mode in which this bird obtains its food and the elaborate mechanism by which the movements of the anomalous beak are performed, is too long to be quoted, even in intelligible abstract. It will be found *in extenso* in the second volume of his 'British Birds,' p. 27. That the Cross-bill has bred in this country is a well-ascertained fact.—T. B.]

‡ [*Cottus gobio*, Linn.: Yarrell, Brit. Fishes, i. p. 56.]

§ [*Salmo fario*, Linn.: Yarrell, ii. p. 252. The trout exists in considerable numbers in the stream that flows by the Priory meadows and Oakhanger; but they are of small size.—T. B.]

‖ [*Anguilla acutirostris*, Yarrell, ii. p. 284.]

¶ [*Ammocœtes branchialis*, Yarrell, Brit. Fishes, ii. p. 69. This fish is rarely found; I do not remember to have seen it more than once or twice. It lives entirely in the mud; and an intelligent person residing near Oakhanger Pond, the most likely place for its occurrence, is not acquainted with it.—T. B.]

** [Of the six species of stickleback described by Yarrell as British, the

We are twenty miles from the sea, and almost as many from a great river, and therefore see but little of sea-birds. As to wild fowls, we have a few teams of *ducks* bred in the moors where the snipes breed; and multitudes of *widgeons* and *teals* in hard weather frequent our lakes in the forest.

Having some acquaintance with a tame *brown owl*, I find that it casts up the fur of mice, and the feathers of birds in pellets, after the manner of hawks: when full, like a dog, it hides what it cannot eat.

The young of the barn-owl are not easily raised, as they want a constant supply of fresh mice: whereas the young of the brown owl will eat indiscriminately all that is brought; snails, rats, kittens, puppies, magpies, and any kind of carrion or offal.

The house-martins have eggs still, and squab-young. The last swift I observed was about the twenty-first of *August;* it was a straggler.

Red-starts, *fly-catchers*, *white-throats*, and *reguli non cristati*, still appear; but I have seen no *black-caps* lately.

I forgot to mention that I once saw, in *Christ Church* college quadrangle in *Oxford*, on a very sunny warm morning, a *house martin* flying about, and settling on the parapet, so late as the twentieth of *November*.

At present I know only two species of *bats*, the common *vespertilio murinus* and the *vespertilio auritus* *.

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only one which I am aware of as inhabiting the stream at Selborne is the common three-spined *Gasterosteus trachurus*, Yarrell, i. p. 76. The habits of the species are very amusing. The males are exceedingly pugnacious; and the jealous and watchful bravery with which the nest enclosing the spawn is guarded by the male, renders him one of the most interesting objects for the freshwater aquarium.—T. B.]

* [The bats which I have found at Selborne, are the Noctule (*Scotophilus noctula*), the Pipistrelle (*Sc. pipistrellus*), the reddish-grey bat (*Vespertilio Natereri*), Daubenton's bat (*V. Daubentonii*), and the long-eared bat (*Plecotus auritus*). Of the first of these White was undoubtedly the first observer in this country; and he was not sufficiently acquainted with the zoological literature of the continent to be aware that as early as 1759 Daubenton had described it in the Memoirs of the Academy, with a figure of its head, and that Buffon had subsequently, but before White's discovery, given it a place in his great work, with a plate (vol. viii. p.128, pl. 18. f. 1);

I was much entertained last summer with a tame bat, which would take flies out of a person's hand. If you gave it any thing to eat, it brought it's wings round before the mouth, hovering and hiding it's head in the manner of birds of prey when they feed. The adroitness it shewed in shearing off the wings of the flies, which were always rejected, was worthy of observation, and pleased me much. Insects seemed to be most acceptable, though it did not refuse raw flesh when offered : so that the notion that bats go down chimnies and gnaw men's bacon, seems no improbable story *. While I amused myself with this wonderful quadruped, I saw it several times confute the vulgar opinion, that bats when down on a flat surface cannot get on the wing again, by rising with great ease from the floor. It ran, I observed, with more dispatch than I was aware of; but in a most ridiculous and grotesque manner.

Bats drink on the wing, like swallows, by sipping the surface, as they play over pools and streams. They love to frequent waters, not only for the sake of drinking, but on account of insects, which are found over them in the greatest plenty. As I was going, some years ago, pretty late, in a

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White's name, *altivolans*, is very appropriate. I have seen it at Selborne for several successive years, passing up and down the whole length of the valley between the Lythe and Dorton Wood, flying as high as the tops of the trees on the hills on each side, and occasionally dipping towards the stream that flows through the valley after insects, or possibly to drink. I have also seen a pair of them coming at twilight out of a large beech near the spot where Gilbert White's summerhouse stood, and which I could not but fancy might have been the place where it was first seen by him. A very interesting account of one which was kept in confinement by Mr. George Daniel appeared in the 'Proceedings of the Zoological Society' for 1834, and is given *in extenso* in the Brit. Quad. 2nd edit. p. 20.

Of the other species found at Selborne, *V. Nattereri* was taken among the rafters of a cottage, and *V. Daubentonii* in my cellar. *Plecotus auritus* is, as far as I have observed, less common here than in many other places. —T. B.]

* [There is no doubt of the fact alluded to. I have known more than one instance of bacon being gnawed by bats when hung in a cottager's wide chimney to be smoked.—T. B.]

boat from *Richmond* to *Sunbury*, on a warm summer's evening, I think I saw myriads of bats between the two places: the air swarmed with them all along the *Thames*, so that hundreds were in sight at a time.

I am, &c.

LETTER XII.

TO THE SAME.

November 4, 1767.

Sir,

It gave me no small satisfaction to hear that the *falco*[s] turned out an uncommon one. I must confess I should have been better pleased to have heard that I had sent you a bird that you had never seen before; but that, I find, would be a difficult task.

I have procured some of the mice mentioned in my former letters, a young one and a female with young, both of which I have preserved in brandy. From the colour, shape, size, and manner of nesting, I make no doubt but that the species is nondescript. They are much smaller and more slender than the *mus domesticus medius* of *Ray;* and have more of the squirrel or dormouse colour: their belly is white; a straight line along their sides divides the shades of their back and belly. They never enter into houses; are carried into ricks and barns with the sheaves; abound in harvest, and build their nests amidst the straws of the corn above the ground, and sometimes in thistles. They breed as many as eight at a litter, in a little round nest composed of the blades of grass or wheat.

One of these nests I procured this autumn, most artificially platted, and composed of the blades of wheat; perfectly round, and about the size of a cricket-ball; with the aperture so ingeniously closed, that there was no discovering to what

[s] This hawk proved to be the *falco peregrinus*; a variety.

part it belonged. It was so compact and well filled, that it would roll across the table without being discomposed, though it contained eight little mice that were naked and blind. As this nest was perfectly full, how could the dam come at her litter respectively so as to administer a teat to each? perhaps she opens different places for that purpose, adjusting them again when the business is over: but she could not possibly be contained herself in the ball with her young, which moreover would be daily increasing in bulk. This wonderful procreant cradle, and elegant instance of the efforts of instinct, was found in a wheat-field, suspended in the head of a thistle*.

A gentleman, curious in birds, wrote me word that his ser-

* [The history of this interesting little animal, the smallest of our British mammals, excepting the lesser shrew (*Sorex pygmæus*), has been fully developed since White's time by the observations of many naturalists. Although our author was the first to make public the discovery of this species, it had been known to Montagu, who gives the following account of his acquaintance with it, in the 'Linnean Transactions,' vol. vii. p. 214:—"This elegant little species of mouse . . . is by no means confined to Hampshire, for we well remember it was common in the more champaign parts of Wiltshire in our younger days, and previous to the discovery of it by Mr. White; and we have since those juvenile days found it in other parts of the same county," &c. It is certainly not a universally distributed species, although found in many parts of England, in some places in Scotland, and, though rarely, in Ireland. Its food commonly consists of grain and other seeds; but it also eagerly takes insects, as is shown in an amusing account by Bingley, in his 'Animal Biography,' who, describing the habits of one kept in confinement, says:—"One evening, as I was sitting at my writing-desk, and the animal was playing about in the open part of its cage, a large blue fly happened to buzz against the wires. The little creature, although at twice or thrice the distance of her own length from it, sprang along the wires with the greatest agility, and would certainly have seized it, had the space between the wires been sufficiently wide to have permitted her teeth to reach it. I caught the fly, and made it buzz in my fingers against the wires. The mouse, though usually shy and timid, immediately came out of her hiding-place, and running to the spot, seized and devoured it." The description of the nest by Dr. Gloger, in the 'Transactions of the German Academy' (Nov. Act. Acad. L.-C. Nat.-Cur. xiv. part i.), supplements that of White in a very interesting manner, and will be found in Bennett's edition of this work, and in the second edition of the 'British Quadrupeds.'—T. B.]

vant had shot one last *January*, in that severe weather, which he believed would puzzle me. I called to see it this summer, not knowing what to expect: but, the moment I took it in hand, I pronounced it the male *garrulus bohemicus*, or *German* silk-tail, from the five peculiar crimson tags or points which it carries at the ends of five of the short remiges. It cannot, I suppose, with any propriety, be called an *English* bird: and yet I see, by *Ray's Philosoph. Letters*, that great flocks of them, feeding upon haws, appeared in this kingdom in the winter of 1685.

The mention of haws puts me in mind that there is a total failure of that wild fruit, so conducive to the support of many of the winged nation. For the same severe weather, late in the spring, which cut off all the produce of the more tender and curious trees, destroyed also that of the more hardy and common.

Some birds, haunting with the missel-thrushes, and feeding on the berries of the yew-tree, which answered to the description of the *merula torquata*, or *ring-ouzel*, were lately seen in this neighbourhood. I employed some people to procure me a specimen, but without success. See Letter VIII.

Query—Might not *Canary* birds be naturalized to this climate, provided their eggs were put, in the spring, into the nests of some of their congeners, as goldfinches, greenfinches, &c.? Before winter perhaps they might be hardened, and able to shift for themselves.

About ten years ago I used to spend some weeks yearly at *Sunbury*, which is one of those pleasant villages lying on the *Thames*, near *Hampton-court*. In the autumn, I could not help being much amused with those myriads of the swallow kind which assemble in those parts. But what struck me most was, that, from the time they began to congregate, forsaking the chimnies and houses, they roosted every night in the osier-beds of the aits of that river*. Now this resorting

* [I have often heard my father describe a scene which he witnessed on the banks of the Thames nearly a century ago, when residing at Chelsea. Always fond of observing facts in natural history, he and a friend resolved on sitting up to watch for the moment of starting for migration

towards that element, at that season of the year, seems to give some countenance to the northern opinion (strange as it is) of their retiring under water. A *Swedish* naturalist* is so much persuaded of that fact, that he talks, in his calendar of *Flora*, as familiarly of the swallow's going under water in the beginning of *September*, as he would of his poultry going to roost a little before sunset.

An observing gentleman in *London* writes me word that he saw a house-martin, on the twenty-third of last *October*, flying in and out of it's nest in the *Borough*. And I myself, on the twenty-ninth of last *October* (as I was travelling through *Oxford*), saw four or five swallows hovering round and settling on the roof of the county-hospital.

Now is it likely that these poor little birds (which perhaps had not been hatched but a few weeks) should, at that late season of the year, and from so midland a county, attempt a voyage to *Goree* or *Senegal*, almost as far as the *equator*?†

I acquiesce entirely in your opinion—that, though most of the swallow kind may migrate, yet that some do stay behind and hide with us during the winter.

As to the short-winged soft-billed birds, which come trooping in such numbers in the spring, I am at a loss even what to suspect about them. I watched them narrowly this year, and saw them abound till about *Michaelmas*, when they appeared no longer. Subsist they cannot openly among us, and yet elude the eyes of the inquisitive: and, as to their hiding, no man pretends to have found any of them in a torpid state

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of the innumerable host of swallows which congregated for that purpose on the willows which clothed the little islands, or "aits," lying in the river. Observing that the birds had been gathering in the evening for some days, they set about their watch; and on the third morning, as soon as the day began to dawn, they heard the warning chirp from the islet, which was repeated from one to another until it became general, accompanied by a decided movement among the birds, until, as if by universal consent, they all rose in a body, to the amount, apparently, of many hundreds, to a considerable height in the air, and moved off in a cloud to the southward, and were seen no more. See Letter XXIII.—T. B.]

* [Linnæus.—T. B.]

† See *Adanson's* Voyage to *Senegal*.

in the winter. But with regard to their migration, what difficulties attend that supposition! that such feeble bad fliers (who the summer long never flit but from hedge to hedge) should be able to traverse vast seas and continents, in order to enjoy milder seasons amidst the regions of *Africa!*

LETTER XIII.

TO THE SAME.

Selborne, Jan. 22, 1768.

Sir,

As in one of your former letters you expressed the more satisfaction from my correspondence on account of my living in the most southerly county; so now I may return the compliment, and expect to have my curiosity gratified by your living much more to the North.

For many years past I have observed that towards *Christmas* vast flocks of chaffinches have appeared in the fields; many more, I used to think, than could be hatched in any one neighbourhood. But, when I came to observe them more narrowly, I was amazed to find that they seemed to be almost all hens*. I communicated my suspicions to some intelligent neighbours, who, after taking pains about the matter, declared

* [Professor Newton, in the fourth edition of Yarrell's 'Birds' edited by him (vol. 2, p. 70–71), has the following passage on this phase in the history of the chaffinch:—"We certainly receive, in autumn or early winter, most likely from Norway and Sweden, large flocks of immigrant chaffinches, which seem composed almost entirely of females, though young males that have not yet put on the external distinction of their sex may be among them. These strangers appear chiefly on the east coast of England, from Yorkshire southward; but how far they penetrate to the interior, or whether any great number of them remain with us till spring, are questions hitherto unanswered." The whole of Professor Newton's treatment of this subject is very interesting, but it is too long for a footnote. It is complete as far as our knowledge goes; but further observations are necessary to reconcile apparent incongruities, and to fill up gaps in the history.—T. B.]

that they also thought them all mostly females; at least fifty to one. This extraordinary occurrence brought to my mind the remark of *Linnæus*; that "before winter, all their hen "chaffinches migrate through *Holland* into *Italy*." Now I want to know, from some curious person in the north, whether there are any large flocks of these finches with them in the winter, and of which sex they mostly consist? For, from such intelligence, one might be able to judge whether our female flocks migrate from the other end of the island, or whether they come over to us from the continent.

We have, in the winter, vast flocks of the common linnets; more, I think, than can be bred in any one district. These, I observe, when the spring advances, assemble on some tree in the sunshine, and join all in a gentle sort of chirping, as if they were about to break up their winter quarters and betake themselves to their proper summer homes. It is well known, at least, that the swallows and the fieldfares do congregate with a gentle twittering before they make their respective departure.

You may depend on it that the bunting, *emberiza miliaria*, does not leave this country in the winter. In *January* 1767 I saw several dozen of them, in the midst of a severe frost, among the bushes on the downs near *Andover:* in our woodland enclosed district it is a rare bird *.

* [Our author is certainly right in considering the common Bunting rare in Selborne. I have never seen it there, nor can I hear of its having been observed by others; whereas the yellow bunting (*E. citrinella*) amuses by its curious song on all sides during the summer, and assembles in flocks of hundreds on the fields and hedges in the winter. There is, however, a very interesting and rare species of the same genus, the Cirl Bunting (*E. cirlus*), which was wholly unknown to Gilbert White, having been, in fact, first detected in England after his time. Montagu mentions, in the first edition of his Dictionary, that he discovered it near Kingsbridge in the year 1800; and he subsequently made it partly the subject of a paper which was published in the 'Linnean Transactions,' vol. vii., in which he gives a full account of its localities, habits, &c. I first observed it at Selborne in 1848, when a pair of this species built in a large maple in my grounds, and brought up a brood of five young ones. They bred near the same spot in several following years, and were remarkably tame, allowing me to approach within a few yards of them without ex-

Wagtails, both white and yellow, are with us all the winter. Quails crowd to our southern coast, and are often killed in numbers by people that go on purpose.

Mr. *Stillingfleet*, in his Tracts, says that "if the wheatear, "*(œnanthe)* does not quit *England*, it certainly shifts places; "for about harvest they are not to be found, where there was "before great plenty of them." This well accounts for the vast quantities that are caught about that time on the south downs near *Lewes*, where they are esteemed a delicacy. There have been shepherds, I have been credibly informed, that have made many pounds in a season by catching them in traps. And though such multitudes are taken, I never saw (and I am well acquainted with those parts) above two or three at a time: for they are never gregarious. They may, perhaps, migrate in general; and, for that purpose, draw towards the coast of *Sussex* in autumn; but that they do not all withdraw I am sure; because I see a few stragglers in many counties, at all times of the year, especially about warrens and stone quarries *.

I have no acquaintance, at present, among the gentlemen of the navy: but have written to a friend, who was a sea-chaplain in the late war, desiring him to look into his minutes, with respect to birds that settled on their rigging during their voyage up or down the channel. What *Hasselquist* says on that subject is remarkable: there were little short-winged

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hibiting any signs of fear. The species had been previously noticed in this neighbourhood by Mr. Blyth, who, in the second volume of the 'Naturalist,' page 221, has this passage:—The Cirl Bunting "is nowhere more plentiful than in the vicinity of Alton, near Selborne, whence it is strange that Gilbert White should have overlooked it." As Montagu first detected it "among flocks of yellow buntings and chaffinches," it is possible that this was the cause of its having been overlooked. While on the subject of these flocks composed of various species, I may mention that the brambling (*Fringilla montifringilla*, Linn.) is frequently associated with them; but they also assemble by themselves under the beeches on the hill, feeding on the beech-mast.—T. B.]

* [The Wheatear, multitudinous as it is about the downs of Hampshire, Sussex, and other counties, is a rare bird at Selborne, never occurring there in any numbers. See Letter XVII. to Daines Barrington.—T. B.]

birds frequently coming on board his ship all the way from our channel quite up to the *Levant*, especially before squally weather.

What you suggest, with regard to *Spain*, is highly probable. The winters of *Andalusia* are so mild, that, in all likelihood, the soft-billed birds that leave us that season may find insects sufficient to support them there.

Some young man, possessed of fortune, health, and leisure, should make an autumnal voyage into that kingdom; and should spend a year there, investigating the natural history of that vast country. Mr. *Willughby*[u] passed through that kingdom on such an errand; but he seems to have skirted along in a superficial manner and an ill humour, being much disgusted at the rude dissolute manners of the people.

I have no friend left now at *Sunbury* to apply to about the swallows roosting on the aits of the *Thames:* nor can I hear any more about those birds which I suspected were *merulæ torquatæ.*

As to the small mice, I have farther to remark, that though they hang their nests for breeding up amidst the straws of the standing corn, above the ground; yet I find that, in the winter they burrow deep in the earth, and make warm beds of grass: but their grand rendezvous seems to be in corn-ricks, into which they are carried at harvest. A neighbour housed an oat-rick lately, under the thatch of which were assembled near an hundred, most of which were taken; and some I saw. I measured them; and found that, from nose to tail, they were just two inches and a quarter, and their tails just two inches long. Two of them, in a scale, weighed down just one copper halfpenny, which is about the third of an ounce avoirdupois: so that I suppose they are the smallest quadrupeds in this island. A full-grown *mus medius domesticus* weighs, I find, one ounce, lumping weight, which is more than six times as much as the mouse above; and measures from nose to rump four inches and a quarter, and the same in it's tail.

We have had a very severe frost and deep snow this month. My thermometer was one day fourteen degrees and an half

[u] See *Ray's* Travels, p. 466.

below the freezing-point, within doors. The tender evergreens were injured pretty much. It was very providential that the air was still, and the ground well covered with snow, else vegetation in general must have suffered prodigiously. There is reason to believe that some days were more severe than any since the year 1739–40.

I am, &c. &c.

LETTER XIV.

TO THE SAME.

Selborne, March 12, 1768.

Dear Sir,

If some curious gentleman would procure the head of a fallow-deer, and have it dissected, he would find it furnished with two spiracula, or breathing-places, beside the nostrils; probably analogous to the *puncta lachrymalia* in the human head. When deer are thirsty they plunge their noses, like some horses, very deep under water, while in the act of drinking, and continue them in that situation for a considerable time: but, to obviate any inconveniency, they can open two vents, one at the inner corner of each eye, having a communication with the nose. Here seems to be an extraordinary provision of nature worthy our attention; and which has not, that I know of, been noticed by any naturalist. For it looks as if these creatures would not be suffocated, though both their mouths and nostrils were stopped. This curious formation of the head may be of singular service to beasts of chase, by affording them free respiration: and no doubt these additional nostrils are thrown open when they are hard run.[x] Mr.

[x] In answer to this account, Mr. *Pennant* sent me the following curious and pertinent reply:—"I was much surprised to find in the *antelope* "something analogous to what you mention as so remarkable in deer. "This animal has a long slit beneath each eye, which can be opened and "shut at pleasure. On holding an orange to one, the creature made as "much use of those orifices as of his nostrils, applying them to the fruit, "and seeming to smell it through them."

Ray observed that, at *Malta*, the owners slit up the nostrils of such asses as were hard worked: for they, being naturally strait or small, did not admit air sufficient to serve them when they travelled or laboured in that hot climate. And we know that grooms, and gentlemen of the turf, think large nostrils necessary, and a perfection, in hunters and running horses *.

Oppian, the *Greek* poet, by the following line, seems to have had some notion that stags have four spiracula:

"Τετραδυμοι 'ρινες, πισυρες πνοιησι διαυλοι."
"Quadrifidæ nares, quadruplices ad respirationem canales."
Opp. Cyn. Lib. ii. l. 181.

Writers, copying from one another, make *Aristotle* say that goats breathe at their ears; whereas he asserts just the contrary:—"Αλκμαιων γαρ ουκ αληθη λεγει, φαμενος αναπνειν "τας αιγας κατα τα ωτα." "*Alcmæon* does not advance what "is true, when he avers that goats breathe through their ears." —History of Animals. Book I. chap. xi.

LETTER XV.

TO THE SAME.

Selborne, March 30, 1768.

Dear Sir,

Some intelligent country people have a notion that we have, in these parts, a species of the *genus mustelinum*, besides the weasel, stoat, ferret, and polecat; a little reddish beast, not much bigger than a field mouse, but much longer, which they call a *cane*. This piece of intelligence can be little depended on; but farther inquiry may be made †.

* [The view taken by White both of the structure and use of these cavities or glands is entirely erroneous. They have no relation to the function of respiration. See Owen's description of them in the Proc. Zool. Soc. 1836, and Mr. Bennett's observations in his edition of this work, p. 73–74.—T. B.]

† [The cane or kine (for I have heard it designated by both names)

A gentleman in this neighbourhood had two milkwhite rooks in one nest. A booby of a carter, finding them before they were able to fly, threw them down and destroyed them, to the regret of the owner, who would have been glad to have preserved such a curiosity in his rookery. I saw the birds myself nailed against the end of a barn, and was surprised to find that their bills, legs, feet, and claws were milkwhite.

A shepherd saw, as he thought, some white larks on a down above my house this winter: were not these the *emberiza nivalis*, the snow-flake of the *Brit. Zool.?* No doubt they were.

A few years ago I saw a cock bullfinch in a cage, which had been caught in the fields after it had come to it's full colours. In about a year it began to look dingy; and, blackening every succeeding year, it became coal-black at the end of four. It's chief food was hempseed *. Such influence has food on the colour of animals! The pied and mottled colours of domesticated animals are supposed to be owing to high, various, and unusual food.

I had remarked, for years, that the root of the cuckoo-pint *(arum)* was frequently scratched out of the dry banks of hedges, and eaten in severe snowy weather. After observing, with some exactness, myself, and getting others to do the same, we found it was the thrush kind that searched it out. The root of the *arum* is remarkably warm and pungent.

is certainly nothing more than an unusually small female weasel, which is always considerably smaller than the male; and it would appear that in some localities it is even smaller than ordinary. It cannot be considered a distinct variety, as it does not differ from the normal character in any other respect. Mr. Yarrell suggested, in Mr. Bennett's edition of this work, that these may be the young females of the year, which have not attained their full size; but I have seen them of a very small size when unmistakably adult. I have received it both from Kent and Sussex.—T. B.]

* [A more full account of this will be found in one of Gilbert White's letters to his nephew, Mr. Samuel Barker. It occurred at Faringdon when he was curate of that parish. The effect of a diet of hempseed in blackening the plumage of birds, and in particular the bullfinch, is now well known.—T. B.]

Our flocks of female chaffinches have not yet forsaken us. The blackbirds and thrushes are very much thinned down by that fierce weather in *January*.

In the middle of *February* I discovered, in my tall hedges, a little bird that raised my curiosity: it was of that yellow-green colour that belongs to the *salicaria* kind, and, I think, was soft-billed. It was no *parus;* and was too long and too big for the golden-crowned wren, appearing most like the largest willow-wren. It hung sometimes with it's back downwards, but never continuing one moment in the same place. I shot at it, but it was so desultory that I missed my aim.

I wonder that the stone curlew, *charadrius oedicnemus*, should be mentioned by the writers as a rare bird: it abounds in all the campaign parts of *Hampshire* and *Sussex*, and breeds, I think, all the summer, having young ones, I know, very late in the autumn. Already they begin clamouring in the evening. They cannot, I think, with any propriety, be called, as they are by Mr. *Ray*, "*circa aquas versantes*;" for with us, by day at least, they haunt only the most dry, open, upland fields and sheep walks, far removed from water. What they may do in the night I cannot say. Worms are their usual food, but they also eat toads and frogs.

I can show you some good specimens of my *new mice*. *Linnæus*, perhaps, would call the species *mus minimus*.

LETTER XVI.

TO THE SAME.

Selborne, April 18, 1768.

Dear Sir,

The history of the stone curlew, *charadrius oedicnemus*, is as follows. It lays it's eggs, usually two, never more than three, on the bare ground, without any nest, in the field; so that the countryman, in stirring his fallows, often destroys them. The young run immediately from the egg like partridges, &c. and are withdrawn to some flinty field by the dam, where

they skulk among the stones, which are their best security; for their feathers are so exactly of the colour of our grey spotted flints, that the most exact observer, unless he catches the eye of the young bird, may be eluded. The eggs are short and round; of a dirty white, spotted with dark bloody blotches. Though I might not be able, just when I pleased, to procure you a bird, yet I could show you them almost any day; and any evening you may hear them round the village, for they make a clamour which may be heard a mile. *Oedicnemus* is a most apt and expressive name for them, since their legs seem swoln like those of a gouty man. After harvest I have shot them before the pointers in turnip-fields *.

I make no doubt but there are three species of the *willow-wrens:* two I know perfectly; but have not been able yet to procure the third. No two birds can differ more in their notes, and that constantly, than those two that I am acquainted with; for the one has a joyous, easy, laughing note; the other a harsh loud chirp. The former is every way larger, and three quarters of an inch longer, and weighs two drams and a half; while the latter weighs but two: so the songster is one fifth heavier than the chirper. The chirper (being the first summer-bird of passage that is heard, the wryneck sometimes excepted) begins his two notes in the middle of *March*, and continues them through the spring and summer till the end of *August*, as appears by my journals. The legs of the larger of these two are flesh-coloured; of the less, black.

* [*Œdicnemus crepitans*, the stone-curlew. The common English name is calculated to mislead us; it has no near affinity to the curlew (*Numenius*), but is indebted for the name to the similarity of its cry. Its nearest affinity appears certainly to be to the plovers, although Gould, in his 'Birds of Europe,' recognized its relationship to the bustard, as Pennant had done before. The intimate acquaintance with its habits which White has shown, and his assurance that he could show them on any day, indicates that it was much more common at Selborne in his time than it has been of late. I have occasionally heard its cry late in the evening as it has passed at a considerable height over the village; but in thirty years I have never seen one, alive or dead. It is remarkable that Yarrell does not mention White's name in his description of this bird, although the account which he had given in such detail was the fullest extant.—T. B.]

The *grasshopper-lark* began his sibilous note in my fields last *Saturday*. Nothing can be more amusing than the whisper of this little bird, which seems to be close by though at an hundred yards distance; and, when close at your ear, is scarce any louder than when a great way off. Had I not been a little acquainted with insects, and known that the grasshopper kind is not yet hatched, I should have hardly believed but that it had been a *locusta* whispering in the bushes. The country people laugh when you tell them that it is the note of a bird. It is a most artful creature, sculking in the thickest part of a bush; and will sing at a yard distance, provided it be concealed. I was obliged to get a person to go on the other side of the hedge where it haunted; and then it would run, creeping like a mouse, before us for a hundred yards together, through the bottom of the thorns; yet it would not come into fair sight: but in a morning early, and when undisturbed, it sings on the top of a twig, gaping and shivering with it's wings. Mr. *Ray* himself had no knowledge of this bird, but received his account from Mr. *Johnson*, who apparently confounds it with the *reguli non cristati*, from which it is very distinct. See *Ray's Philosophical Letters*, p. 108.

The fly-catcher (*stoparola*) has not yet appeared: it usually breeds in my vine. The *redstart* begins to sing: it's note is short and imperfect, but is continued till about the middle of *June*. The *willow-wrens* (the smaller sort) are horrid pests in a garden, destroying the pease, cherries, currants, &c.; and are so tame that a gun will not scare them.

A List of the Summer Birds of Passage discovered in this neighbourhood, ranged somewhat in the Order in which they appear:

	Linnæi Nomina.
Smallest willow-wren,	*Motacilla trochilus:*
Wryneck,	*Jynx torquilla:*
House-swallow,	*Hirundo rustica:*
Martin,	*Hirundo urbica:*
Sand-martin,	*Hirundo riparia:*
Cuckoo,	*Cuculus canorus:*
Nightingale,	*Motacilla luscinia:*

	Linnæi nomina.
Blackcap,	*Motacilla atricapilla :*
Whitethroat,	*Motacilla sylvia :*
Middle willow-wren,	*Motacilla trochilus :*
Swift,	*Hirundo apus :*
Stone curlew,?	*Charadrius oedicnemus ?*
Turtle-dove,?	*Turtur aldrovandi?* *
Grasshopper-lark,	*Alauda trivialis :* †
Landrail,	*Rallus crex :*
Largest willow-wren,	*Motacilla trochilus :*
Redstart.	*Motacilla phœnicurus :*
Goatsucker, or fern-owl,	*Caprimulgus europæus :*
Fly-catcher,	*Muscicapa grisola.*

My countrymen talk much of a bird that makes a clatter with it's bill against a dead bough, or some old pales, calling it a jar-bird. I procured one to be shot in the very fact; it proved to be the *sitta europæa (the nuthatch* ‡*)*. Mr. *Ray* says that the less spotted *woodpecker* does the same. This noise may be heard a furlong or more.

Now is the only time to ascertain the short-winged summer birds; for, when the leaf is out, there is no making any remarks on such a restless tribe; and, when once the young begin to appear, it is all confusion: there is no distinction of genus, species, or sex.

* [*Columba turtur*, Linn.—T. B.]

† ["Linnæus's *Alauda trivialis* is the Tree-pipit. See Yarr. 4th edit. i. pp. 369, 370. Linnæus did not know the Grasshopper lark or Warbler." —Prof. Newton.]

‡ [A peculiarity in the habits of the nuthatch which I have never seen mentioned in any publication was communicated to me by Mr. Clarke, of Fulford, near Exeter, in the following letter, dated Oct. 11, 1867:—"As Mrs. Clarke and I were watching a nuthatch from the window, expecting that he would crack a nut which he had and was busily searching for a hole in some slating within a few feet of us in which to fix the nut (but his endeavours were directed solely to those parts where *the green moss grew*), after five or six endeavours to lodge it, he fixed it in a cleft among the moss, and gave it a few taps with his bill, just so as to fix it there. We then distinctly saw him take two separate pieces of the green moss and fix them over the nut, so as to hide it completely. He then left it, retired to the edge of the slating, and flew deliberately away. I have often found nuts in holes and places where they had been deposited, but never understood that they had been deliberately stored."—T. B.]

In breeding-time snipes play over the moors, piping and humming: they always hum as they are descending. Is not their hum ventriloquous like that of the turkey? Some suspect it is made by their wings.

This morning I saw the golden-crowned wren, whose crown glitters like burnished gold. It often hangs like a titmouse, with it's back downwards.

Yours, &c. &c.

LETTER XVII.

TO THE SAME.

Selborne, June 18, 1768.

Dear Sir.

On *Wednesday* last arrived your agreeable letter of *June* the 10th. It gives me great satisfaction to find that you pursue these studies still with such vigour, and are in such forwardness with regard to reptiles and fishes.

The reptiles, few as they are, I am not acquainted with, so well as I could wish, with regard to their natural history. There is a degree of dubiousness and obscurity attending the propagation of this class of animals, something analogous to that of the *cryptogamia* in the sexual system of plants: and the case is the same as regards some of the fishes; as the eel, &c.*

* [The whole of the typical Batrachia, the frogs, toads, newts, salamanders, &c., undergo a complete metamorphosis. In the land species (of which we have no representative in this country), as from their habits they cannot have constant access to water, the aquatic portion of their existence, during which the gills remain attached, cannot be passed in that medium in the same manner as the frogs &c. This essential process, therefore, takes place in the oviduct, before they are excluded from the mother and come forth in the perfect condition. But in the other forms, to which our native species all belong, the change takes place in the water, and the young live there for a time in a fish-like state as regards not only their respiration but most of the other functions of life. The common water-newt, or eft, exhibits a beautiful example of this interesting change, retaining its pretty reddish leaf-like gills till the animals are an inch or more in length.—T. B.]

The method in which toads procreate and bring forth seems to be very much in the dark. Some authors say that they are viviparous: and yet *Ray* classes them among his oviparous animals; and is silent with regard to the manner of their bringing forth. Perhaps they may be ἔσω μὲν ὠοτόκοι, ἔξω δὲ ζωοτόκοι, as is known to be the case with the viper.

The copulation of frogs (or at least the appearance of it; for *Swammerdam* proves that the male has no *penis intrans*) is notorious to every body: because we see them sticking upon each others backs for a month together in the spring: and yet I never saw, or read, of toads being observed in the same situation. It is strange that the matter with regard to the venom of toads has not yet been settled. That they are not noxious to some animals is plain: for ducks, buzzards, owls, stone curlews, and snakes, eat them, to my knowledge, with impunity. And I well remember the time, but was not eye-witness to the fact (though numbers of persons were) when a quack, at this village, ate a toad to make the country-people stare; afterwards he drank oil*.

* [The habit of close observation of nature which was so conspicuous in White himself was communicated by his example to many who came within the sphere of his influence. This is shown in numerous instances, not only among his relatives and friends, as is evident in his correspondence with his brothers and nephews, but also among his dependents and other humble neighbours; and there are many indications of his having availed himself of their observations, and thus derived advantage from the habit which he had himself originated. The following account, which I find amongst his papers, is a striking example of this. The observer was doubtless no other than his old gardener, Thomas Hoar, a quaint original, who was many years in his service. The account is not in White's handwriting, but evidently written from his dictation, as it is in a boy's hand, and has several verbal corrections, and the diction is his own. It is interesting as the earlier record of a striking fact, long afterwards the subject of careful investigation by Dr. John Davy, recorded in his well-known paper in the 'Philosophical Transactions. The following is Gilbert White's statement:—

"The benevolence of modern naturalists hath induced them to pronounce the toad harmless, in contradiction to the extravagant tales of the ancients concerning its poisonous qualities, which exposed it to many cruelties. But by what I saw the other day, I am convinced it hath some venomous properties, which it exerts in its defence. There seems to be

I have been informed also, from undoubted authority, that some ladies (ladies you will say of peculiar taste) took a fancy to a toad, which they nourished summer after summer, for many years, till he grew to a monstrous size, with the maggots which turn to flesh flies. The reptile used to come forth every evening from an hole under the garden-steps; and was taken up, after supper, on the table to be fed. But at last a tame raven, kenning him as he put forth his head, gave him such a severe stroke with his horny beak as put out one eye. After this accident the creature languished for some time and died.

I need not remind a gentleman of your extensive reading of the excellent account there is from Mr. *Derham*, in *Ray's* Wisdom of God in the Creation (p. 365), concerning the migration of frogs from their breeding ponds. In this account he at once subverts that foolish opinion of their dropping from the clouds in rain; shewing that it is from the grateful coolness and moisture of those showers that they are tempted to set out on their travels, which they defer till those fall. Frogs are as yet in their tadpole state; but in a few weeks, our lanes, paths, fields, will swarm for a few days with myriads of these emigrants, no larger than my little finger nail. *Swammerdam* gives a most accurate account of the

some resemblance between the toad and the viper, and the frog and the snake: the frog and the snake have a power of escaping from their enemies by their agility, and therefore are harmless; but the toad and viper being sluggish, and having no powers of escaping, are armed with poison. As I passed the gardener the other day, he turned up a toad in digging, which I desired him not to destroy, as it was an inoffensive animal, and helped to clear the ground of grubs and insects; upon which, to convince me that it was not altogether harmless, he took the toad up by the skin of its back, and placing it on a gravel walk, set a little terrier bitch at it, who, from former experiments, was aware of its venomous quality, and tho' naturally very fierce and eager, she touched it very gently with her nose, nothing equal to the gardener's grasp when he took it up, and instantly the foam came from her mouth, and her face and eyes were strongly convulsed. This continued upon her half an hour, during which time she would not eat any thing that was offered her. How the venom was communicated I am not able to say. Those who make this part of physiology their study would do well to try the experiment."—T. B.]

method and situation in which the male impregnates the spawn of the female. How wonderful is the œconomy of Providence with regard to the limbs of so vile a reptile! While it is *aquatic* it has a fish-like tail, and no legs: as soon as the legs sprout, the tail drops off as useless, and the animal betakes itself to the land!

Merret, I trust, is widely mistaken when he advances that the *rana arborea* is an *English* reptile; it abounds in *Germany* and *Switzerland**.

It is to be remembered that the *salamandra aquatica* of *Ray* (the water-newt or eft) will frequently bite at the angler's bait, and is often caught on his hook. I used to take it for granted that the *salamandra aquatica* was hatched, lived, and died in the water. But *John Ellis*, Esq., F.R.S. (the coralline *Ellis*) asserts, in a letter to the Royal Society, dated *June* the 5th, 1766, in his account of the *mud inguana*, an amphibious *bipes* from *South Carolina*, that the water-eft, or newt, is only the *larva* of the land-eft, as tadpoles are of frogs. Lest I should be suspected to misunderstand his meaning, I shall give it in his own words. Speaking of the *opercula* or coverings to the gills of the *mud inguana*, he proceeds to say that "The forms of these pennated coverings approach very near "to what I have some time ago observed in the *larva* or *aqua-*"*tic* state of our *English lacerta*, known by the name of eft, or "newt; which serve them for coverings to their gills, and for "fins to swim with while in this state; and which they lose, "as well as the fins of their tails, when they *change* their state, "and *become land animals*, as I have observed, by keeping them "alive for some time myself."

Linnæus, in his *Systema Naturæ*, hints at what Mr. *Ellis* advances more than once.

* [*'Ranunculus viridis seu Dryopetes.'* Merrett, 'Pinax,' p. 169. There is, of course, no ground for the statement that the *Hyla viridis* is a native of this country. It is difficult to understand how Gilbert White could entertain a repugnance to a little creature so harmless and beautiful, and so interesting in its habits. As the *Hyla* lives on trees, and does not frequent the water except for breeding, it changes its skin in the same manner as the toad. This I have ascertained.—T. B.]

Providence has been so indulgent to us as to allow of but one venomous reptile of the serpent kind in these kingdoms, and that is the viper. As you propose the good of mankind to be an object of your publications, you will not omit to mention common salad-oil as a sovereign remedy against the bite of the viper. As to the blind worm (*anguis fragilis*, so called because it snaps in sunder with a small blow), I have found, on examination, that it is perfectly innocuous. A neighbouring yeoman (to whom I am indebted for some good hints) killed and opened a female viper about the twenty-seventh of *May:* he found her filled with a chain of eleven eggs, about the size of those of a blackbird; but none of them were advanced so far towards a state of maturity as to contain any rudiments of young. Though they are oviparous, yet they are viviparous also, hatching their young within their bellies, and then bringing them forth. Whereas snakes lay chains of eggs every summer in my melon beds, in spite of all that my people can do to prevent them; which eggs do not hatch till the spring following, as I have often experienced*. Several intelligent folks assure me that they have seen the viper open her mouth and admit her helpless young down her throat on sudden surprises, just as the female opossum does her brood into the pouch under her belly, upon the like emergencies; and yet the *London* viper-catchers insist on it, to Mr. *Barrington*, that no such thing ever happens †. The serpent kind eat,

* [The common snake is very susceptible of being tamed, and probably of becoming attached to those who feed it and treat it kindly. One which I formerly possessed was accustomed, when I was at breakfast, to be let out of its box; and on my pouring some milk into the hollow of my hand, it immediately came, and, placing its head perpendicularly, would suck up every drop; and when satisfied it glided under the sleeve of my coat, and coiled itself up between it and my arm, luxuriating in the warmth.—T. B.]

† [The following note I communicated to Mr. Bennett's edition, p. 102:—"I have been assured by a very honest and worthy gardener in Dorsetshire that he had seen the young vipers enter the mouth of the mother when alarmed. I have never been able to obtain further reliable evidence of the fact, though I have made the most extensive inquiries in my power. If it be untrue, the popular error may have arisen from the fact of fully-formed young having been found in the abdomen of the

I believe, but once in a year; or, rather, but only just at one season of the year. Country people talk much of a water-snake, but, I am pretty sure, without any reason; for the common snake *(coluber natrix)* delights much to sport in the water, perhaps with a view to procure frogs and other food*.

I cannot well guess how you are to make out your twelve species of reptiles, unless it be by the various species, or rather varieties, of our *lacerti*, of which *Ray* enumerates five. I have not had an opportunity of ascertaining these; but remember well to have seen, formerly, several beautiful green *lacerti* on the sunny sandbanks near *Farnham*, in *Surrey*; and *Ray* admits there are such in *Ireland*†.

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mother, ready to be excluded." Surely the experiment might be tried, and the question set at rest.—T. B.]

* [Our three species of British serpents, the viper, the ringed snake, and the slowworm, live by preference on three very different kinds of food, and inhabit, as a rule, a corresponding variety of situation. The viper lives mostly on mice and other small mammifers, and is commonly found on heaths and other comparatively dry places, where such food most abounds; the common or ringed snake, an excellent swimmer, as its name (*natrix*) implies, lives by preference on frogs, frequenting wet situations, the neighbourhood of ponds and streams, where these Amphibia inhabit; and the slowworm frequents the herbage of underwood or gardens, where they can obtain insects and the smaller shelless mollusca, on which they ordinarily feed.—T. B.]

† [The vagueness and imperfection of White's knowledge of the Reptilia and Amphibia are only to be accounted for by his strong prejudice against them, which prevented him from either acquiring a technical knowledge of the different species, or of observing their habits and physiology. The species which I have myself seen at Selborne are the following:—Of Reptilia, the little viviparous lizard, *Zootoca vivipara*, which is common on the sandy heath of Wolmer Forest; the blindworm, *Anguis fragilis*; the common snake, *Natrix torquata*; the viper, *Pelias berus*. Of Amphibia, the common frog, *Rana temporaria*; the common toad, *Bufo vulgaris*; the natter-jack, *Bufo calamita*; the warty newt, *Triton cristatus*; the common smooth newt, *Lissotriton punctatus*; the palmated smooth newt, *Lissotriton palmipes*. It is unnecessary now, and in this work, to enter into any detail of the physiology of these animals; but a few facts respecting one or two of them as occurring at Selborne may not be out of place. Some years ago the natter-jack was by far the most common species of toad in my garden, taking the place of the ordinary species, which was then comparatively rare; but for some years past not

LETTER XVIII.

TO THE SAME.

Selborne, July 27, 1768.

DEAR SIR,

I RECEIVED your obliging and communicative letter of *June* the 28th, while I was on a visit at a gentleman's house, where I had neither books to turn to, nor leisure to sit down, to return you an answer to many queries, which I wanted to resolve in the best manner that I am able.

A person, by my order, has searched our brooks, but could find no such fish as the *gasterosteus pungitius*: he found the *gasterosteus aculeatus* in plenty. This morning, in a basket, I packed a little earthen pot full of wet moss, and in it some sticklebacks, male and female; the females big with spawn: some lamperns; some bulls heads; but I could procure no minnows. This basket will be in *Fleet-street* by eight this evening; so I hope *Mazel** will have them fresh and fair tomorrow morning. I gave some directions, in a letter, to what particulars the engraver should be attentive.

Finding, while I was on a visit, that I was within a reasonable distance of *Ambresbury*, I sent a servant over to that

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one of the former has been seen; and no cause has ever suggested itself for its disappearance. Its voice was far more powerful and resonant than that of any of its congeners, and could be heard at a great distance, resembling almost deceptively that of the night-jar; it was, however, only heard during the breeding-season. Another remarkable peculiarity was its fondness for hot and dry situations: one in particular took its station under a stone close to a south wall, and was frequently seen peeping out from its hiding-place, and if taken up in the hand would immediately resume its position upon being placed on the ground. I have seen hundreds of young ones not larger than the finger-nail on the heath at Wolmer, not far from the pond, where doubtless they had been bred. The palmated smooth newt formerly inhabited a pond on the common; but I have not seen it for some years.—T. B.]

* [Peter Mazell, the engraver of the plates in Pennant's 'British Zoology,' and of three of those in the original edition of this work, namely the two of the church and that of the Plestor.—T. B.]

town, and procured several living specimens of loaches, which he brought, safe and brisk, in a glass decanter. They were taken in the gullies that were cut for watering the meadows. From these fishes (which measured from two to four inches in length) I took the following description: "The loach, in "it's general aspect, has a pellucid appearance: it's back is "mottled with irregular collections of small black dots, not "reaching much below the *linea lateralis*, as are the back and "tail fins: a black line runs from each eye down to the nose; "it's belly is of a silvery white; the upper jaw projects beyond "the lower, and is surrounded with six feelers, three on each "side; it's pectoral fins are large, it's ventral much smaller; the "fin behind it's anus small; it's dorsal fin large, containing eight "spines; it's tail, where it joins to the tail-fin, *remarkably broad*, "without any taperness, so as to be characteristic of this genus: "the tail-fin is broad, and square at the end. From the breadth "and muscular strength of the tail, it appears to be an active "nimble fish."

In my visit I was not very far from *Hungerford*, and did not forget to make some inquiries concerning the wonderful method of curing cancers by means of toads. Several intelligent persons, both gentry and clergy, do, I find, give a great deal of credit to what was asserted in the papers: and I myself dined with a clergyman who seemed to be persuaded that what is related is matter of fact; but, when I came to attend to his account, I thought I discerned circumstances which did not a little invalidate the woman's story of the manner in which she came by her skill. She says of herself "that, labouring under a virulent cancer, she went to some church where there was a vast crowd: on going into a pew, she was accosted by a strange clergyman; who, after expressing compassion for her situation, told her that if she would make such an application of living toads as is mentioned she would be well." Now is it likely that this unknown gentleman should express so much tenderness for this single sufferer, and not feel any for the many thousands that daily languish under this terrible disorder? Would he not have made use of this invaluable nostrum for his own emolument; or, at least, by

some means of publication or other, have found a method of making it public for the good of mankind? In short, this woman (as it appears to me) having set up for a cancer-doctress, finds it expedient to amuse the country with this dark and mysterious relation.

The water-eft has not, that I can discern, the least appearance of any gills; for want of which it is continually rising to the surface of the water to take in fresh air. I opened a big-bellied one indeed, and found it full of spawn. Not that this circumstance at all invalidates the assertion that they are *larvæ:* for the *larvæ* of insects are full of eggs, which they exclude the instant they enter their last state. The water-eft is continually climbing over the brims of the vessel, within which we keep it in water, and wandering away: and people every summer see numbers crawling out of the pools where they are hatched, up the dry banks. There are varieties of them, differing in colour; and some have fins up their tail and back, and some have not.

LETTER XIX.

TO THE SAME.

Selborne, Aug. 17, 1768.

DEAR SIR,

I HAVE now, past dispute, made out three distinct species of the willow-wrens *(motacillæ trochili)* which *constantly* and *invariably* use distinct notes. But, at the same time, I am obliged to confess that I know nothing of your willow-lark.[y] In my letter of *April* the 18th, I told you peremptorily that I knew your willow-lark, but had not seen it then: but, when I came to procure it, it proved, in all respects, a very *motacilla trochilus*; only that it is a size larger than the two other, and the yellow-green of the whole upper part of the body is more vivid, and the belly of a clearer white. I have specimens of the three sorts now lying before me; and can discern that

[y] Brit. Zool. edit. 1776, octavo, p. 381.

there are three gradations of sizes, and that the least has black legs, and the other two flesh-coloured ones. The yellowest bird is considerably the largest, and has it's quill-feathers and secondary feathers tipped with white, which the others have not. This last haunts only the tops of trees in high beechen woods, and makes a sibilous grasshopper-like noise, now and then, at short intervals, shivering a little with its wings when it sings; and is, I make no doubt now, the *regulus non cristatus* of *Ray*, which he says "*cantat voce stridulâ locustæ.*" Yet this great ornithologist never suspected that there were three species.

LETTER XX.

TO THE SAME.

Selborne, October 8, 1768.

It is, I find, in *zoology* as it is in *botany:* all nature is so full, that that district produces the greatest variety which is the most examined. Several birds, which are said to belong to the north only, are, it seems, often in the south. I have discovered this summer three species of birds with us, which writers mention as only to be seen in the northern counties. The first that was brought me (on the 14th of *May*) was the sandpiper, *tringa hypoleucus**: it was a cock bird, and haunted the banks of some ponds near the village; and, as it had a companion, doubtless intended to have bred near that water. Besides, the owner has told me since, that, on recollection, he has

* [*Totanus hypoleucos*, Yarrell, ii. p. 539. A specimen of the common sandpiper was shot at the mill-stream and brought to me in July 1860. This genus has been remarkably represented at Selborne. The son of the person who shot the one just mentioned, killed and brought me a specimen of the green sandpiper (*T. ochropus*, Yarrell, *l. c.* p. 528) in August 1858. It is in the Alton Museum. But the most interesting example is that of the spotted redshank (*T. fuscus*, Yarrell, *l. c.* p. 522). A beautiful specimen of this bird was killed at Oakhanger, and brought to me on August 30, 1851. It was in an interesting state of plumage:—the breast and whole underpart sprinkled with a mixture of grey and white; the back blackish, spotted with white. This specimen is also in the Alton Museum.—T. B.]

seen some of the same birds round his ponds in former summers.

The next bird that I procured (on the 21st of *May*) was a male red-backed butcher bird, *lanius collurio*. My neighbour, who shot it, says that it might easily have escaped his notice, had not the outcries and chattering of the white-throats and other small birds drawn his attention to the bush where it was: it's craw was filled with the legs and wings of beetles.

The next rare birds (which were procured for me last week) were some ring-ousels, *turdi torquati*.

This week twelve months a gentleman from *London*, being with us, was amusing himself with a gun, and found, he told us, on an old yew hedge where there were berries, some birds like blackbirds, with rings of white round their necks: a neighbouring farmer also at the same time observed the same; but, as no specimens were procured, little notice was taken. I mentioned this circumstance to you in my letter of *November* the 4th, 1767: (you, however, paid but small regard to what I said, as I had not seen these birds myself:) but last week the aforesaid farmer, seeing a large flock, twenty or thirty of these birds, shot two cocks and two hens: and says, on recollection, that he remembers to have observed these birds again last spring, about *Lady-day*, as it were, on their return to the north. Now perhaps these ousels are not the ousels of the north of *England*, but belong to the more northern parts of *Europe;* and may retire before the excessive rigor of the frosts in those parts; and return to breed in the spring, when the cold abates. If this be the case, here is discovered a new bird of winter passage, concerning whose migrations the writers are silent: but if these birds should prove the ousels of the north of *England*, then here is a migration disclosed within our own kingdom never before remarked. It does not yet appear whether they retire beyond the bounds of our island to the south; but it is most probable that they usually do, or else one cannot suppose that they would have continued so long unnoticed in the southern counties. The ousel is larger than a blackbird, and feeds on haws; but last autumn (when there were no haws) it fed on yew-berries: in the spring

it feeds on ivy-berries, which ripen only at that season, in *March* and *April*.

I must not omit to tell you (as you have been so lately on the study of reptiles) that my people, every now and then of late, draw up with a bucket of water from my well, which is 63 feet deep, a large black warty lizard with a fin-tail and yellow belly. How they first came down at that depth, and how they were ever to have got out thence without help, is more than I am able to say.

My thanks are due to you for your trouble and care in the examination of a buck's head. As far as your discoveries reach at present, they seem much to corroborate my suspicions; and I hope Mr. —— may find reason to give his decision in my favour; and then, I think, we may advance this extraordinary provision of nature as a new instance of the wisdom of God in the creation.

As yet I have not quite done with my history of the *oedicnemus*, or stone-curlew; for I shall desire a gentleman in *Sussex* (near whose house these birds congregate in vast flocks in the autumn) to observe nicely when they leave him, (if they do leave him) and when they return again in the spring: I was with this gentleman lately, and saw several single birds.

LETTER XXI.

TO THE SAME.

Selborne, Nov. 28, 1768.

Dear Sir,

With regard to the *oedicnemus*, or stone-curlew, I intend to write very soon to my friend near *Chichester**, in whose neighbourhood these birds seem most to abound; and shall urge him to take particular notice when they begin to con-

* [The gentleman here referred to was John Woods, Esq., of Chilgrove (about six miles from Chichester, lying under the chalk down called Bow Hill). The stone-curlew, I am informed, is still occasionally met with; but its numbers are now but few.—T. B.]

gregate, and afterwards to watch them most narrowly whether they do not withdraw themselves during the dead of the winter. When I have obtained information with respect to this circumstance, I shall have finished my history of the *stone-curlew*; which I hope will prove to your satisfaction, as it will be, I trust, very near the truth. This gentleman, as he occupies a large farm of his own, and is abroad early and late, will be a very proper spy upon the motions of these birds: and besides, as I have prevailed on him to buy the Naturalist's Journal (with which he is much delighted,) I shall expect that he will be very exact in his dates. It is very extraordinary, as you observe, that a bird so common with us should never straggle to you.

And here will be the properest place to mention, while I think of it, an anecdote which the above-mentioned gentleman told me when I was last at his house; which was that, in a warren joining to his outlet, many daws (*corvi monedulæ*) build every year in the rabbit-burrows under ground. The way he and his brothers used to take their nests, while they were boys, was by listening at the mouths of the holes; and, if they heard the young ones cry, they twisted the nest out with a forked stick. Some water-fowls (*viz.* the puffins) breed, I know, in that manner; but I should never have suspected the daws of building in holes on the flat ground.

Another very unlikely spot is made use of by daws as a place to breed in, and that is *Stonehenge*. These birds deposit their nests in the interstices between the upright and the impost stones of that amazing work of antiquity: which circumstance alone speaks the prodigious height of the upright stones, that they should be tall enough to secure those nests from the annoyance of shepherd-boys, who are always idling round that place.

One of my neighbours last *Saturday*, *November* the 26th, saw a martin in a sheltered bottom: the sun shone warm, and the bird was hawking briskly after flies. I am now perfectly satisfied that they do not all leave this island in the winter.

You judge very right, I think, in speaking with reserve and caution concerning the cures done by toads: for, let

people advance what they will on such subjects, yet there is such a propensity in mankind towards deceiving and being deceived, that one cannot safely relate any thing from common report, especially in print, without expressing some degree of doubt and suspicion.

Your approbation, with regard to my new discovery of the migration of the ring-ousel, gives me satisfaction; and I find you concur with me in suspecting that they are foreign birds which visit us. You will be sure, I hope, not to omit to make inquiry whether your ring-ousels leave your rocks in the autumn. What puzzles me most, is the very short stay they make with us; for in about three weeks they are all gone. I shall be very curious to remark whether they will call on us at their return in the spring, as they did last year.

I want to be better informed with regard to ichthyology. If fortune had settled me near the sea-side, or near some great river, my natural propensity would soon have urged me to have made myself acquainted with their productions: but as I have lived mostly in inland parts, and in an upland district, my knowledge of fishes extends little farther than to those common sorts which our brooks and lakes produce.

I am, &c.

LETTER XXII.

TO THE SAME.

Selborne, Jan. 2, 1769.

Dear Sir,

As to the peculiarity of jackdaws building with us under the ground in rabbit-burrows, you have, in part, hit upon the reason; for, in reality, there are hardly any towers or steeples in all this country. And perhaps, *Norfolk* excepted, *Hampshire* and *Sussex* are as meanly furnished with churches as almost any counties in the kingdom. We have many livings of two or three hundred pounds a year, whose houses of worship make little better appearance than dovecots. When I first

saw *Northamptonshire*, *Cambridgeshire* and *Huntingdonshire*, and the fens of *Lincolnshire*, I was amazed at the number of spires which presented themselves in every point of view. As an admirer of prospects, I have reason to lament this want in my own country; for such objects are very necessary ingredients in an elegant landscape.

What you mention with respect to reclaimed toads raises my curiosity. An ancient author, though no naturalist, has well remarked that "*Every kind of beasts, and of birds, and* "*of serpents, and of things in the sea, is tamed, and hath been* "*tamed, of mankind.*"[z]

It is a satisfaction to me to find that a green lizard has actually been procured for you in *Devonshire;* because it corroborates my discovery, which I made many years ago, of the same sort, on a sunny sandbank near *Farnham*, in *Surrey**. I am well acquainted with the south hams of *Devonshire;* and can suppose that district, from its southerly situation, to be a proper habitation for such animals in their best colours.

Since the ring-ousels of your vast mountains do certainly not forsake them against winter, our suspicions that those which visit this neighbourhood about *Michaelmas* are not *English* birds, but driven from the more northern parts of *Europe* by the frosts, are still more reasonable: and it will be worth your pains to endeavour to trace from whence they come, and to inquire why they make so very short a stay.

In your account of your error with regard to the two species of herons, you incidentally gave me great entertainment in your description of the heronry at *Cressi-hall*; which is a curiosity I never could manage to see. Fourscore nests of such a bird on one tree is a rarity which I would ride half as many miles to have a sight of. Pray be sure to tell me in your next

[z] *James*, chap. iii. 7.

* [The green lizard here spoken of, which was found by Gilbert White and by the Rev. Revett Shepherd near Farnham, was doubtless the *Lacerta stirpium* of Daudin and Jenyns, now known to be a British species. It has been repeatedly found by myself in the Isle of Purbeck, and Poole Heath in Dorsetshire. It is doubtless the true *L. agilis* of Linnæus ('Brit. Reptiles,' p. 17).—T. B.]

whose seat *Cressi-hall* is, and near what town it lies.[a] I have often thought that those vast extents of fens have never been sufficiently explored. If half a dozen gentlemen, furnished with a good strength of water-spaniels, were to beat them over for a week, they would certainly find more species.

There is no bird, I believe, whose manners I have studied more than that of the *caprimulgus* (the goat-sucker,) as it is a wonderful and curious creature: but I have always found that though sometimes it may chatter as it flies, as I know it does, yet in general it utters it's jarring note sitting on a bough; and I have for many an half hour watched it as it sat with it's under mandible quivering, and particularly this summer. It perches usually on a bare twig, with it's head lower than it's tail, in an attitude well expressed by your draughtsman in the folio *British Zoology*. This bird is most punctual in beginning it's song exactly at the close of day; so exactly that I have known it strike up more than once or twice just at the report of the *Portsmouth* evening gun, which we can hear when the weather is still. It appears to me past all doubt that it's notes are formed by organic impulse, by the powers of the parts of it's windpipe, formed for sound, just as cats pur*. You will credit me, I hope, when I tell you that, as

[a] *Cressi-hall* is near *Spalding*, in *Lincolnshire*.

* [In the original letter, as sent to Pennant, the following passage occurs, which is omitted from the book (it precedes the paragraph in the text relative to this bird):—"There is a passage in the article Goatsucker, page 247" [of the 'British Zoology'] "which you will pardon me for objecting to, as I always thought it exceptionable; and that is, 'This noise being made *only* in its flight, we suppose it to be caused by the resistance of the air against the hollow of its vastly extended mouth and throat; for it flies with both wide open, to take its prey.' Now, as the first line appears to me to be a false fact, the supposition of course falls to the ground, if it should prove so." This statement of Pennant is one of many proofs how imperfect was his own observation of the habits of birds, and how fallacious and inconsistent was his reasoning. Who could imagine the possibility of the mere "resistance of the air" as the bird was flying with its mouth open could produce a noise similar to that of a spinning-wheel, and loud enough to be heard for nearly a mile? This bird is certainly less common in Selborne and its neighbourhood than it was some years ago, and I have neither seen nor heard one for a considerable time past. In

my neighbours were assembled in an hermitage on the side of a steep hill where we drink tea, one of these churn-owls came and settled on the cross of that little straw edifice and began to chatter, and continued his note for many minutes: and we were all struck with wonder to find that the organs of that little animal, when put in motion, gave a sensible vibration to the whole building! This bird also sometimes makes a small squeak, repeated four or five times; and I have observed that to happen when the cock has been pursuing the hen in a toying way through the boughs of a tree.

It would not be at all strange if your bat, which you have procured, should prove a new one, since five species have been found in a neighbouring kingdom. The great sort that I mentioned is certainly a non-descript: I saw but one this summer, and that I had no opportunity of taking.

Your account of the *Indian-grass* was entertaining. I am no angler myself; but inquiring of those that are, what they supposed that part of their tackle to be made of? they replied "of the intestines of a silkworm."

Though I must not pretend to great skill in entomology, yet I cannot say that I am ignorant of that kind of knowledge: I may now and then, perhaps, be able to furnish you with a little information.

The vast rains ceased with us much about the same time as with you, and since we have had delicate weather. Mr. *Barker*, who has measured the rain for more than thirty years, says, in a late letter, that more has fallen this year than in any he ever attended to; though, from *July* 1763 to *January* 1764, more fell than in any seven months of this year.

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the month of August 1863 there was a nest on Selborne Common; and at that time one remained in my garden a whole day, flying lazily from one part to another when disturbed, but very dull and inactive. As evening came on it reassumed its natural activity and flew gaily away. It was probably one of the parent birds to whom the nest on the common belonged. See Mr. Churton's letter to G. W., Jan. 23, 1793.—T. B.]

LETTER XXIII.

TO THE SAME.

Selborne, February 28, 1769.

Dear Sir,

It is not improbable that the *Guernsey* lizard and our green lizards may be specifically the same; all that I know is, that, when some years ago many *Guernsey* lizards were turned loose in *Pembroke* college garden, in the university of *Oxford*, they lived a great while, and seemed to enjoy themselves very well, but never bred. Whether this circumstance will prove any thing either way I shall not pretend to say.

I return you thanks for your account of *Cressi-hall*; but recollect, not without regret, that in *June* 1746 I was visiting for a week together at *Spalding*, without ever being told that such a curiosity was just at hand. Pray send me word in your next what sort of tree it is that contains such a quantity of herons' nests; and whether the heronry consists of a whole grove or wood, or only of a few trees.

It gave me satisfaction to find that we accorded so well about the *caprimulgus:* all I contended for was to prove that it often chatters sitting as well as flying; and therefore the noise was voluntary, and from organic impulse, and not from the resistance of the air against the hollow of its mouth and throat.

If ever I saw any thing like actual migration, it was last *Michaelmas-day*. I was travelling, and out early in the morning: at first there was a vast fog; but, by the time that I was got seven or eight miles from home towards the coast, the sun broke out into a delicate warm day. We were then on a large heath or common, and I could discern, as the mist began to break away, great numbers of swallows *(hirundines rusticæ)* clustering on the stunted shrubs and bushes, as if they had roosted there all night. As soon as the air became

clear and pleasant they all were on the wing at once; and, by a placid and easy flight, proceeded on southward towards the sea: after this I did not see any more flocks, only now and then a straggler.

I cannot agree with those persons that assert that the swallow kind disappear some and some gradually, as they come, for the bulk of them seem to withdraw at once: only some stragglers stay behind a long while, and do never, there is the greatest reason to believe, leave this island. Swallows seem to lay themselves up, and to come forth in a warm day, as bats do continually of a warm evening, after they have disappeared for weeks. For a very respectable gentleman assured me that, as he was walking with some friends under *Merton-wall* on a remarkably hot noon, either in the last week in *December* or the first week in *January*, he espied three or four swallows huddled together on the moulding of one of the windows of that college. I have frequently remarked that swallows are seen later at *Oxford* than elsewhere: is it owing to the vast massy buildings of that place, to the many waters round it, or to what else?

When I used to rise in a morning last autumn, and see the swallows and martins clustering on the chimneys and thatch of the neighbouring cottages, I could not help being touched with a secret delight, mixed with some degree of mortification: with delight to observe with how much ardour and punctuality those poor little birds obeyed the strong impulse towards migration, or hiding, imprinted on their minds by their great Creator; and with some degree of mortification, when I reflected that, after all our pains and inquiries, we are yet not quite certain to what regions they do migrate; and are still farther embarrassed to find that some do not actually migrate at all.

These reflections made so strong an impression on my imagination, that they became productive of a composition that may perhaps amuse you for a quarter of an hour when next I have the honour of writing to you.

LETTER XXIV.

TO THE SAME.

Selborne, May 29, 1769.

DEAR SIR,

THE *scarabæus fullo* I know very well, having seen it in collections; but have never been able to discover one wild in its natural state. Mr. *Banks* told me he thought it might be found on the sea-coast.

On the thirteenth of *April* I went to the sheep-down, where the *ring-ousels* have been observed to make their appearance at spring and fall, in their way perhaps to the north or south; and was much pleased to see three birds about the usual spot. We shot a cock and a hen; they were plump and in high condition. The hen had but very small rudiments of eggs within her, which proves they are late breeders; whereas those species of the thrush kind that remain with us the whole year have fledged young before that time. In their crops was nothing very distinguishable, but somewhat that seemed like blades of vegetables nearly digested. In autumn they feed on haws and yew-berries, and in the spring on ivy-berries. I dressed one of these birds, and found it juicy and well-flavoured. It is remarkable that they make but a few days stay in their spring visit, but rest near a fortnight at *Michaelmas*. These birds, from the observations of three springs and two autumns, are most punctual in their return; and exhibit a new migration unnoticed by the writers, who supposed they never were to be seen in any of the southern counties.

One of my neighbours lately brought me a new *salicaria*, which at first I suspected might have proved your willow-lark,[c] but, on a nicer examination, it answered much better to the description of that species which you shot at *Revesby*, in *Lincolnshire*. My bird I describe thus: "It is a size less

[c] For this *salicaria* see letter *August* 30, 1769.

"than the grasshopper-lark; the head, back, and coverts of "the wings of a dusky brown, without those dark spots of the "grasshopper-lark; over each eye is a milkwhite stroke; the "chin and throat are white, and the under parts of a yellowish "white; the rump is tawny, and the feathers of the tail sharp-"pointed; the bill is dusky and sharp, and the legs are dusky; "the hinder claw long and crooked." The person that shot it says that it sung so like a reed-sparrow that he took it for one; and that it sings all night: but this account merits farther inquiry. For my part, I suspect it is a second sort of *locustella*, hinted at by Dr. *Derham*, in *Ray's Letters:* see p. 108. He also procured me a grasshopper-lark.

The question that you put with regard to those genera of animals that are peculiar to *America*, viz. how they came there, and whence? is too puzzling for me to answer; and yet so obvious as often to have struck me with wonder. If one looks into the writers on that subject little satisfaction is to be found. Ingenious men will readily advance plausible arguments to support whatever theory they shall chuse to maintain; but then the misfortune is, every one's hypothesis is each as good as another's, since they are all founded on conjecture. The late writers of this sort, in whom may be seen all the arguments of those that have gone before, as I remember, stock *America* from the western coast of *Africa* and the south of *Europe;* and then break down the Isthmus that bridged over the *Atlantic*. But this is making use of a violent piece of machinery: it is a difficulty worthy of the interposition of a god! "*Incredulus odi.*"

TO THOMAS PENNANT, ESQUIRE.

THE NATURALIST'S SUMMER-EVENING WALK.

—— equidem credo, quia sit divinitus illis
Ingenium. VIRG. GEORG.

WHEN day declining sheds a milder gleam,
What time the may-fly[d] haunts the pool or stream;

[d] The angler's may-fly, the *ephemera vulgata Linn.* comes forth from

When the still owl skims round the grassy mead,
What time the timorous hare limps forth to feed;
Then be the time to steal adown the vale,
And listen to the vagrant[e] cuckoo's tale;
To hear the clamorous[f] curlew call his mate,
Or the soft quail his tender pain relate;
To see the swallow sweep the dark'ning plain
Belated, to support her infant train;
To mark the swift in rapid giddy ring
Dash round the steeple, unsubdu'd of wing:
Amusive birds!—say where your hid retreat
When the frost rages and the tempests beat;
Whence your return, by such nice instinct led,
When spring, soft season, lifts her bloomy head?
Such baffled searches mock man's prying pride,
The GOD of NATURE is your secret guide!

While deep'ning shades obscure the face of day
To yonder bench, leaf-shelter'd, let us stray,
'Till blended objects fail the swimming sight,
And all the fading landscape sinks in night;
To hear the drowsy dorr come brushing by
With buzzing wing, or the shrill[g] cricket cry;
To see the feeding bat glance through the wood;
To catch the distant falling of the flood;
While o'er the cliff th' awakened churn-owl hung
Through the still gloom protracts his chattering song;
While high in air, and pois'd upon his wings,
Unseen, the soft enamour'd [h] woodlark sings:

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it's aurelia state, and emerges out of the water about six in the evening, and dies about eleven at night, determining the date of it's fly state in about five or six hours. They usually begin to appear about the 4th of *June*, and continue in succession for near a fortnight. See *Swammerdam, Derham, Scopoli, &c.*

[e] Vagrant cuckoo; so called because, being tied down by no incubation or attendance about the nutrition of it's young, it wanders without control.

[f] *Charadrius Oedicnemus.*

[g] *Gryllus campestris.*

[h] In hot summer nights woodlarks soar to a prodigious height, and hang singing in the air.

These, NATURE'S works, the curious mind employ,
Inspire a soothing melancholy joy:
As fancy warms, a pleasing kind of pain
Steals o'er the cheek, and thrills the creeping vein!
Each rural sight, each sound, each smell, combine;
The tinkling sheep-bell, or the breath of kine;
The new-mown hay that scents the swelling breeze,
Or cottage-chimney smoking through the trees.
The chilling night-dews fall: away, retire;
For see, the glow-worm lights her amorous fire![i]
Thus, ere night's veil had half obscured the sky,
Th' impatient damsel hung her lamp on high:
True to the signal, by love's meteor led,
Leander hasten'd to his Hero's bed.[k]

I am, &c.

LETTER XXV.

TO THE SAME.

Selborne, Aug. 30, 1769.

Dear Sir,

It gives me satisfaction to find that my account of the *ousel migration* pleases you. You put a very shrewd question when you ask me how I know that their autumnal migration is southward? Was not candour and openness the very life of natural history, I should pass over this query just as a sly commentator does over a crabbed passage in a classic; but common ingenuousness obliges me to confess, not without some degree of shame, that I only reasoned in that case from analogy. For as all other autumnal birds migrate from the northward to us, to partake of our milder winters, and return to the northward again when the rigorous cold abates, so I

[i] The light of the female glow-worm (as she often crawls up the stalk of a grass to make herself more conspicuous) is a signal to the male, which is a slender dusky *scarabæus*.

[k] See the story of *Hero* and *Leander*.

Cottage at Dorton — The Lythe on the left hand. Dorton Wood on the right

concluded that the ring-ousels did the same, as well as their congeners the fieldfares; and especially as ring-ousels are known to haunt cold mountainous countries: but I have good reason to suspect since that they may come to us from the westward; because I hear, from very good authority, that they breed on *Dartmore;* and that they forsake that wild district about the time that our visitors appear, and do not return till late in the spring.

I have taken a great deal of pains about your *salicaria* and mine, with a white stroke over it's eye, and a tawny rump. I have surveyed it alive and dead, and have procured several specimens; and am perfectly persuaded myself (and trust you will soon be convinced of the same) that it is no more nor less than the *passer arundinaceus minor* of *Ray*. This bird, by some means or other, seems to be entirely omitted in the *British Zoology;* and one reason probably was because it is so strangely classed in *Ray*, who ranges it among his *picis affines*. It ought no doubt to have gone among his *aviculæ caudâ unicolore*, and among your slender-billed small birds of the same division. *Linnæus* might with great propriety have put it into his genus of *motacilla;* and the *motacilla salicaria* of his *fauna suecica* seems to come the nearest to it. It is no uncommon bird, haunting the sides of ponds and rivers where there is covert, and the reeds and sedges of moors. The country people in some places call it the *sedge-bird*. It sings incessantly night and day during the breeding-time, imitating the note of a sparrow, a swallow, a sky-lark; and has a strange hurrying manner in it's song. My specimens correspond most minutely to the description of your *fen salicaria* shot near *Revesby*. Mr. *Ray* has given an excellent characteristic of it when he says, "*Rostrum & pedes in hâc aviculâ multò majores sunt quàm pro corporis ratione.*" See letter *May* 29, 1769.

I have got you the egg of an *oedicnemus*, or stone-curlew, which was picked up in a fallow on the naked ground: there were two; but the finder inadvertently crushed one with his foot before he saw them.

When I wrote to you last year on reptiles, I wish I had not

forgot to mention the faculty that snakes have of stinking *se defendendo*. I knew a gentleman who kept a tame snake, which was in it's person as sweet as any animal while in a good humour and unalarmed; but as soon as a stranger, or a dog or cat, came in, it fell to hissing, and filled the room with such nauseus effluvia as rendered it hardly supportable. Thus the squnck, or stonck, of *Ray's Synop. Quadr.* is an innocuous and sweet animal; but, when pressed hard by dogs and men, it can eject such a most pestilent and fetid smell and excrement, that nothing can be more horrible.

A gentleman sent me lately a fine specimen of the *lanius minor cinerascens cum maculâ in scapulis albâ, Raii;* which is a bird that, at the time of your publishing your two first volumes of *British Zoology*, I find you had not seen. You have described it well from *Edwards's* drawing.

LETTER XXVI.

TO THE SAME.

Selborne, December 8, 1769.

DEAR SIR,

I WAS much gratified by your communicative letter on your return from *Scotland*, where you spent, I find, some considerable time, and gave yourself good room to examine the natural curiosities of that extensive kingdom, both those of the islands, as well as those of the highlands. The usual bane of such expeditions is hurry; because men seldom allot themselves half the time they should do: but, fixing on a day for their return, post from place to place, rather as if they were on a journey that required dispatch, than as philosophers investigating the works of nature. You must have made, no doubt, many discoveries, and laid up a good fund of materials for a future edition of the *British Zoology;* and will have no reason to repent that you have bestowed so much pains on a part of *Great-Britain* that perhaps was never so well examined before.

It has always been matter of wonder to me that fieldfares, which are so congenerous to thrushes and blackbirds, should never choose to breed in *England:* but that they should not think even the highlands cold and northerly, and sequestered enough, is a circumstance still more strange and wonderful. The ring-ousel, you find, stays in *Scotland* the whole year round; so that we have reason to conclude that those migrators that visit us for a short space every autumn do not come from thence.

And here, I think, will be the proper place to mention that those birds were most punctual again in their migration this autumn, appearing, as before, about the 30th of *September:* but their flocks were larger than common, and their stay protracted somewhat beyond the usual time. If they came to spend the whole winter with us, as some of their congeners do, and then left us, as they do, in spring, I should not be so much struck with the occurrence, since it would be similar to that of the other winter birds of passage; but when I see them for a fortnight at *Michaelmas*, and again for about a week in the middle of *April*, I am seized with wonder, and long to be informed whence these travellers come, and whither they go, since they seem to use our hills merely as an inn or baiting place.

Your account of the greater brambling, or snow-fleck, is very amusing; and strange it is that such a short-winged bird should delight in such perilous voyages over the northern ocean! Some country people in the winter time have every now and then told me that they have seen two or three white larks on our downs; but, on considering the matter, I begin to suspect that these are some stragglers of the birds we are talking of, which sometimes perhaps may rove so far to the southward.

It pleases me to find that white hares are so frequent on the *Scottish* mountains, and especially as you inform me that it is a distinct species; for the quadrupeds of *Britain* are so few, that every new species is a great acquisition*.

* [The identity of the Scottish or mountain hare with the *Lepus variabilis* of Pallas has long been known. It is found in the greater part of

The eagle-owl, could it be proved to belong to us, is so majestic a bird that it would grace our *fauna* much. I never was informed before where wild-geese are known to breed.

You admit, I find, that I have proved your *fen salicaria* to be the lesser reed-sparrow of *Ray;* and I think that you may be secure that I am right; for I took very particular pains to clear up that matter, and had some fair specimens; but, as they were not well preserved, they are decayed already. You will, no doubt, insert it in it's proper place in your next edition. Your additional plates will much improve your work.

De Buffon, I know, has described the water shrew-mouse: but still I am pleased to find you have discovered it in *Lincolnshire*, for the reason I have given in the article on the white hare*.

As a neighbour was lately ploughing in a dry chalky field, far removed from any water, he turned out a water-rat, that was curiously laid up in an *hybernaculum* artificially formed

Scotland, especially in the mountainous districts, and in the whole of Ireland. In the former, the fur changes colour on the approach of winter, becoming gradually white, excepting the tips of the ears, which are permanently black. On the return of spring the white fur comes off, and is replaced by its grey summer coat. As it seldom if ever changes its colour in Ireland, it was supposed that the Irish hare was a distinct species; and it was described as such by Mr. Yarrell, with the name of *Lepus hibernicus*. There is, however, no structural difference to warrant such a distinction; and the persistence of its ordinary colour throughout the winter must doubtless be attributed to the milder climate of Ireland (see Brit. Quad. 2nd edit. p. 346).—T. B.]

* [Some years since I observed the water-shrew (*Crossopus fodiens*) in the stream which passes in front of the Grange Farm in Selborne. It was hunting at the bottom of the water among the aquatic plants for insects, and was so flattened that the white of the belly was conspicuous as a narrow margin on each side of the black back, forming a striking and pretty object. I found also in my garden a specimen, recently killed, of the black-bellied variety, formerly known as *Sorex remifer*. It was far from any water. That the neighbourhood of water is not an essential element in its habitat is shown by the following account, sent me by James Salter, Esq., of its occurrence in Charlton Park (in Dorsetshire) :—"On the highest part of the Park, very far removed from any water, I caught a water-shrew. It was running towards a belt of trees on the top of the Park, some of the highest and driest ground on Spettisbury Down."—T. B.]

of grass and leaves. At one end of the *burrow* lay above a gallon of potatoes regularly stowed, on which it was to have supported itself for the winter. But the difficulty with me is how this *amphibius mus* came to fix it's winter station at such a distance from the water. Was it determined in it's choice of that place by the mere accident of finding the potatoes which were planted there; or is it the constant practice of the aquatic-rat to forsake the neighbourhood of the water in the colder months?

Though I delight very little in analogous reasoning, knowing how fallacious it is with respect to natural history; yet, in the following instance, I cannot help being inclined to think it may conduce towards the explanation of a difficulty that I have mentioned before, with respect to the invariable early retreat of the *hirundo apus*, or swift, so many weeks before its congeners; and that not only with us, but also in *Andalusia*, where they also begin to retire about the beginning of *August*.

The great large bat[1] (which by the by is at present a nondescript in *England*, and what I have never been able yet to procure) retires or migrates very early in the summer: it also ranges very high for it's food, feeding in a different region of the air; and that is the reason I never could procure one. Now this is exactly the case with the swifts; for they take their food in a more exalted region than the other species, and are very seldom seen hawking for flies near the ground, or over the surface of the water. From hence I would conclude that these *hirundines*, and the larger bats, are supported by some sorts of high-flying gnats, scarabs, or *phalænæ*, that are of short continuance; and that the short stay of these strangers is regulated by the defect of their food.

By my journal it appears that curlews clamoured on to *October* the thirty-first; since which I have not seen or heard any. Swallows were observed on to *November* the third.

[1] The little bat appears almost every month in the year; but I have never seen the large ones till the end of *April*, nor after *July*. They are most common in *June*, but never in any plenty: are a rare species with us.

LETTER XXVII.

TO THE SAME.

Selborne, Feb. 22, 1770.

Dear Sir,

Hedge-hogs abound in my gardens and fields. The manner in which they eat their roots of the plantain in my grass-walks is very curious: with their upper mandible, which is much longer than their lower, they bore under the plant, and so eat the root off upwards, leaving the tuft of leaves untouched. In this respect they are serviceable, as they destroy a very troublesome weed; but they deface the walks in some measure by digging little round holes. It appears, by the dung that they drop upon the turf, that beetles are no inconsiderable part of their food. In *June* last I procured a litter of four or five young hedge-hogs, which appeared to be about five or six days old; they, I find, like puppies, are born blind, and could not see when they came to my hands. No doubt their spines are soft and flexible at the time of their birth, or else the poor dam would have but a bad time of it in the critical moment of parturition: but it is plain that they soon harden; for these little pigs had such stiff prickles on their backs and sides as would easily have fetched blood, had they not been handled with caution. Their spines are quite white at this age; and they have little hanging ears, which I do not remember to be discernible in the old ones. They can, in part, at this age draw their skin down over their faces; but are not able to contract themselves into a ball, as they do, for the sake of defence, when full grown. The reason, I suppose, is, because the curious muscle that enables the creature to roll itself up into a ball was not then arrived at it's full tone and firmness *. Hedge-hogs make a deep and warm *hybernaculum*

* [There is one use of the hedgehog's armour which I have never seen mentioned, but which I had repeated opportunities of verifying in one which I kept myself. Running about a small yard at the back of the

with leaves and moss, in which they conceal themselves for the winter: but I never could find that they stored in any winter provision, as some quadrupeds certainly do.

I have discovered an anecdote with respect to the fieldfare *(turdus pilaris)*, which I think is particular enough: this bird, though it sits on trees in the day-time, and procures the greatest part of it's food from white-thorn hedges; yea, moreover, builds on very high trees; as may be seen by the *fauna suecica;* yet always appears with us to roost on the ground. They are seen to come in flocks just before it is dark, and to settle and nestle among the heath on our forest. And besides, the larkers, in dragging their nets by night, frequently catch them in the wheat-stubbles; while the bat-fowlers, who take many red-wings in the hedges, never entangle any of this species. Why these birds, in the matter of roosting, should differ from all their congeners, and from themselves also with respect to their proceedings by day, is a fact for which I am by no means able to account.

I have somewhat to inform you of concerning the *moose-deer;* but in general foreign animals fall seldom in my way; my little intelligence is confined to the narrow sphere of my own observations at home.

LETTER XXVIII.

TO THE SAME.

Selborne, March, 1770.

On *Michaelmas-day* 1768 I managed to get a sight of the female moose belonging to the Duke of *Richmond*, at *Goodwood;* but was greatly disappointed, when I arrived at the

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house, which overhung an area, it would go to the very edge; and looking over as if to ascertain if the descent were safe, it would roll up into a ball in the very act of throwing itself down; and, falling upon its elastic spines, it would, in a few seconds after alighting upon the stones, open and run off, wholly unhurt by this voluntary fall of at least ten feet.—T. B.]

spot, to find that it died, after having appeared in a languishing way for some time, on the morning before. However, understanding that it was not stripped, I proceeded to examine this rare quadruped: I found it in an old green-house, slung under the belly and chin by ropes, and in a standing posture; but, though it had been dead for so short a time, it was in so putrid a state that the stench was hardly supportable. The grand distinction between this deer, and any other species that I have ever met with, consisted in the strange length of it's legs; on which it was tilted up much in the manner of birds of the *grallæ* order. I measured it, as they do an horse, and found that, from the ground to the wither, it was just five feet four inches; which height answers exactly to sixteen hands, a growth that few horses arrive at: but then, with this length of legs, it's neck was remarkably short, no more than twelve inches; so that, by straddling with one foot forward and the other backward, it grazed on the plain ground, with the greatest difficulty, between it's legs: the ears were vast and lopping, and as long as the neck; the head was about twenty inches long, and ass-like; and had such a redundancy of upper lip as I never saw before, with huge nostrils. This lip, travellers say, is esteemed a dainty dish in *North America*. It is very reasonable to suppose that this creature supports itself chiefly by browsing of trees, and by wading after water-plants; towards which way of livelihood the length of leg and great lip must contribute much. I have read somewhere that it delights in eating the *nymphæa*, or water-lily. From the fore-feet to the belly behind the shoulder it measured three feet and eight inches: the length of the legs before and behind consisted a great deal in the *tibia*, which was strangely long; but, in my haste to get out of the stench, I forgot to measure that joint exactly. It's scut seemed to be about an inch long; the colour was a grizzly black; the mane about four inches long; the fore-hoofs were upright and shapely, the hind flat and splayed. The spring before it was only two years old, so that most probably it was not then come to it's growth. What a vast tall beast must a full-grown stag be! I have been told some arrive at ten feet and an half! This poor creature had at

first a female companion of the same species, which died the spring before. In the same garden was a young stag, or red deer, between whom and this moose it was hoped that there might have been a breed; but their inequality of height must have always been a bar to any commerce of the amorous kind. I should have been glad to have examined the teeth, tongue, lips, hoofs, &c. minutely; but the putrefaction precluded all further curiosity. This animal, the keeper told me, seemed to enjoy itself best in the extreme frost of the former winter. In the house they shewed me the horn of a male moose, which had no front-antlers, but only a broad palm with some snags on the edge. The noble owner of the dead moose proposed to make a skeleton of her bones.

Please to let me hear if my female moose corresponds with that you saw; and whether you think still that the *American* moose and *European* elk are the same creature. I am,

With the greatest esteem, &c.

LETTER XXIX.*

TO THE SAME.

Selborne, May 12, 1770.

Dear Sir,

Last month we had such a series of cold turbulent weather, such a constant succession of frost, and snow, and hail, and tempest, that the regular migration or appearance of the summer birds was much interrupted. Some did not shew them-

* [In the original letter sent to Pennant, but not retained in the copy sent to the press, is the following paragraph, which appeared to me to be quite worth preserving.

"Though you are embarked in a more extensive plan of natural history, yet I am glad to find that you do by no means give up the Brit. Zoology. That, I think, should be your principal object; and I hope you will continue to revise it at your leisure, and to retouch it until you have made it as perfect as the nature of the work will admit of. If people who live in the country would take a little pains, daily observations might be made with respect to animals, and particularly regarding their life and conversation, their actions and economy, which are the life and soul of natural history."—T. B.]

selves (at least were not heard) till weeks after their usual time; as the *black-cap* and *white-throat;* and some have not been heard yet, as the *grashopper-lark* and largest *willow-wren.* As to the *fly-catcher*, I have not seen it; it is indeed one of the latest, but should appear about this time: and yet, amidst all this meteorous strife and war of the elements, two swallows discovered themselves as long ago as the eleventh of *April*, in frost and snow; but they withdrew quickly, and were not visible again for many days. House-martins, which are always more backward than swallows, were not observed till *May* came in.

Among the *monogamous* birds several are to be found, after pairing-time, single, and of each sex: but whether this state of celibacy is matter of choice or necessity, is not so easily discoverable. When the house-sparrows deprive my martins of their nests, as soon as I cause one to be shot, the other, be it cock or hen, presently procures a mate, and so for several times following.

I have known a dove-house infested by a pair of white owls, which made great havoc among the young pigeons: one of the owls was shot as soon as possible; but the survivor readily found a mate, and the mischief went on. After some time the new pair were both destroyed, and the annoyance ceased*.

Another instance I remember of a sportsman, whose zeal for the increase of his game being greater than his humanity, after pairing-time he always shot the cock-bird of every couple of partridges upon his grounds; supposing that the rivalry of many males interrupted the breed: he used to say, that, though he had widowed the same hen several times, yet he found she was still provided with a fresh paramour, that did not take her away from her usual haunt.

* [Precisely the same circumstance has recently occurred in the dove-house belonging to a friend of mine in the neighbourhood of Selborne; and nothwithstanding Waterton, in his Essays (1st series, p. 14), expresses his decided opinion to the contrary, I cannot help giving my assent to White's version of the fact, confirmed as it is by the instance just mentioned.—T. B.]

Again; I knew a lover of setting, an old sportsman, who has often told me that soon after harvest he has frequently taken small coveys of partridges, consisting of cock-birds alone; these he pleasantly used to call old bachelors.

There is a propensity belonging to common house-cats that is very remarkable; I mean their violent fondness for fish, which appears to be their most favourite food: and yet nature in this instance seems to have planted in them an appetite that, unassisted, they know not how to gratify: for of all quadrupeds cats are the least disposed towards water; and will not, when they can avoid it, deign to wet a foot, much less to plunge into that element.

Quadrupeds that prey on fish are amphibious: such is the otter, which by nature is so well formed for diving, that it makes great havock among the inhabitants of the waters. Not supposing that we had any of those beasts in our shallow brooks, I was much pleased to see a male otter brought to me, weighing twenty-one pounds, that had been shot on the bank of our stream below the *Priory*, where the rivulet divides the parish of *Selborne* from *Harteley-wood*.

LETTER XXX.

TO THE SAME.

Selborne, Aug. 1, 1770.

Dear Sir,

The *French*, I think, in general, are strangely prolix in their natural history. What *Linnæus* says with respect to insects holds good in every other branch: "*Verbositas præsentis* "*sæculi, calamitas artis.*"

Pray how do you approve of *Scopoli's* new work? As I admire his *Entomologia*, I long to see it.

I forgot to mention in my last letter (and had not room to insert in the former) that the male moose, in rutting time, swims from island to island, in the lakes and rivers of *North-America*, in pursuit of the females. My friend, the chaplain,

saw one killed in the water as it was on that errand in the river St. *Lawrence:* it was a monstrous beast, he told me; but he did not take the dimensions.

When I was last in town our friend Mr. *Barrington* most obligingly carried me to see many curious sights. As you were then writing to him about horns, he carried me to see many strange and wonderful specimens. There is, I remember, at Lord *Pembroke's*, at *Wilton*, an horn room furnished with more than thirty different pairs; but I have not seen that house lately.

Mr. *Barrington* showed me many astonishing collections of stuffed and living birds from all quarters of the world. After I had studied over the latter for a time, I remarked that every species almost that came from distant regions, such as *South America*, the coast of *Guinea*, &c. were thick-billed birds of the *loxia* and *fringilla* genera; and no *motacillæ*, or *muscicapæ*, were to be met with. When I came to consider, the reason was obvious enough; for the hard-billed birds subsist on seeds, which are easily carried on board; while the soft-billed birds, which are supported by worms and insects, or, what is a *succedaneum* for them, fresh raw meat, can meet with neither in long and tedious voyages. It is from this defect of food that our collections (curious as they are) are defective, and we are deprived of some of the most delicate and lively genera.

I am, &c.

LETTER XXXI.

TO THE SAME.

Selborne, Sept. 14, 1770.

Dear Sir,

You saw, I find, the ring-ousels again among their native crags; and are farther assured that they continue resident in those cold regions the whole year. From whence, then, do our ring-ousels migrate so regularly every *September*, and make their appearance again, as if in their return, every

April? They are more early this year than common, for some were seen at the usual hill on the fourth of this month.

An observing *Devonshire* gentleman tells me that they frequent some parts of *Dartmoor*, and breed there; but leave those haunts about the end of *September* or beginning of *October*, and return again about the end of *March*.

Another intelligent person assures me that they breed in great abundance all over the *Peak* of *Derby*, and are called there *Tor-ousels;* withdraw in *October* and *November*, and return in spring. This information seems to throw some light on my new migration.

Scopoli's[m] new work (which I have just procured) has it's merits in ascertaining many of the birds of the *Tirol* and *Carniola*. Monographers, come from whence they may, have, I think, fair pretence to challenge some regard and approbation from the lovers of natural history; for, as no man can alone investigate all the works of nature, these partial writers may, each in their department, be more accurate in their discoveries, and freer from errors, than more general writers; and so by degrees may pave the way to an universal correct natural history. Not that *Scopoli* is so circumstantial and attentive to the life and conversation of his birds as I could wish: he advances some false facts; as when he says of the *hirundo urbica* that "*pullos extra nidum non nutrit.*" This assertion I know to be wrong from repeated observation this summer; for house-martins do feed their young flying, though it must be acknowledged not so commonly as the house-swallow; and the feat is done in so quick a manner as not to be perceptible to indifferent observers. He also advances some (I was going to say) improbable facts; as when he says of the woodcock that, "*pullos rostro portat fugiens ab hoste.*" But candour forbids me to say absolutely that any fact is false, because I have never been witness to such a fact. I have only to remark that the long unwieldy bill of the woodcock is perhaps the worst adapted of any among the winged creation for such a feat of natural affection*. I am, &c.

[m] *Annus Primus Historico-Naturalis.*

* [So many instances are recorded by trustworthy observers, attesting

LETTER XXXII.

TO THE SAME.

Selborne, October 29, 1770.

DEAR SIR,

AFTER an ineffectual search in *Linnæus*, *Brisson*, &c. I begin to suspect that I discern my brother's *hirundo hyberna* in *Scopoli's* new discovered *hirundo rupestris*, p. 167. His description of "*Supra murina, subtus albida; rectrices maculâ "ovali albâ in latere interno; pedes nudes, nigri; rostrum ni-"grum; remiges obscuriores quam plumæ dorsales; rectrices "remigibus concolores; caudâ emarginatâ, nec forcipatâ;*" agrees very well with the bird in question; but when he comes to advance that it is "*statura hirundinis urbicæ*," and that "*definitio hirundinis ripariæ Linnæi huic quoque conve-"nit*," he in some measure invalidates all he has said; at least he shews at once that he compares them to these species merely from memory: for I have compared the birds themselves, and find they differ widely in every circumstance of shape, size, and colour. However, as you will have a specimen, I shall be glad to hear what your judgment is in the matter.

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the truth of Scopoli's assertion, that there can now be no doubt of the fact. Besides other authorities, Yarrell mentions no fewer than half a dozen instances of its occurrence; but the manner in which the feat is effected has been very diversely described, one person stating that the parent bird carried the chick in her beak, another in her claws, and a third between her feet. Very many years ago, Mr. John Hancock, of Newcastle, and others since that, have observed accurately the means employed for this object; but the best and clearest account which I have seen is in the following brief note, with which I have been favoured by Professor Newton:—"That the bill assists materially in carrying off and particularly in steadying the young bird while being carried, seems to be established; but the most efficient instruments are the parent's thighs, between which the chick is grasped, while the head and bill are recurved beneath." Mr. Hancock's words are, "between the legs of the parent bird, and pressed close up to its breast."—T. B.]

Whether my brother is forestalled in his non-descript or not, he will have the credit of first discovering that they spend their winters under the warm and sheltery shores of *Gibraltar* and *Barbary*.

Scopoli's characters of his ordines and genera are clean, just, and expressive, and much in the spirit of *Linnæus*. These few remarks are the result of my first perusal of *Scopoli's Annus Primus*.

The bane of our science is the comparing one animal to the other by memory: for want of caution in this particular, *Scopoli* falls into errors: he is not so full with regard to the manners of his indigenous birds as might be wished, as you justly observe: his Latin is easy, elegant, and expressive, and very superior to *Kramer's*.[n]

I am pleased to see that my description of the *moose* corresponds so well with yours.

I am, &c.

LETTER XXXIII.

TO THE SAME.

Selborne, Nov. 26, 1770.

Dear Sir,

I was much pleased to see, among the collection of birds from *Gibraltar*, some of those short-winged *English* summer birds of passage, concerning whose departure we have made so much inquiry. Now if these birds are found in *Andalusia* to migrate to and from *Barbary*, it may easily be supposed that those that come to us may migrate back to the continent, and spend their winters in some of the warmer parts of *Europe*. This is certain, that many soft-billed birds that come to *Gibraltar* appear there only in spring and autumn, seeming to advance in pairs towards the northward, for the sake of breeding during the summer months; and retiring in parties and

[n] See his *Elenchus vegetabilium et animalium per Austriam inferiorem, &c.*

broods toward the south at the decline of the year: so that the rock of *Gibraltar* is the great rendezvous, and place of observation, from whence they take their departure each way towards *Europe* or *Africa*. It is therefore no mean discovery, I think, to find that our small short-winged summer birds of passage are to be seen spring and autumn on the very skirts of *Europe;* it is a presumptive proof of their emigrations.

Scopoli seems to me to have found the *hirundo melba*, the great *Gibraltar* swift, in *Tirol*, without knowing it*. For what is his *hirundo alpina* but the afore-mentioned bird in other words? Says he, "*Omnia prioris*" (meaning the swift;) "*sed pectus album; paulo major priore.*" I do not suppose this to be a new species. It is true also of the *melba*, that "*nidificat in excelsis Alpium rupibus.*" *Vid. Annum Primum.*

My *Sussex* friend, a man of observation and good sense, but no naturalist, to whom I applied on account of the *stone-curlew*, *oedicnemus*, sends me the following account: "In looking over my Naturalist's Journal for the month of *April*, I find the *stone-curlews* are first mentioned on the seventeenth and eighteenth, which date seems to me rather late. They live with us all the spring and summer, and at the beginning of autumn prepare to take leave by getting together in flocks. They seem to me a bird of passage that may travel into some dry hilly country south of us, probably Spain, because of the abundance of sheep-walks in that country; for they spend their summers with us in such districts. This conjecture I hazard, as I have never met with any one that has seen them in *England* in the winter. I believe they are not fond of going near the water, but feed on earth-worms, that are common on

* [*Cypselus melba.* The accidental occurrence of this fine species in this country has been repeatedly recorded. Yarrell mentions six instances:—at Kingsgate, in the Isle of Thanet, in June, 1820; at Dover, in August 1830; at Buckenham, in Norfolk, in October 1831; at Rathfarnham, in Ireland, in March 1833; another was picked up dead near Saffron Walden in July 1838; and a sixth was killed off Cape Clear, off the south-west point of Ireland, a few miles from land. Since that period several instances have been mentioned in the 'Zoologist,' and in Mr. Harting's 'Manual of British Birds,' of the visits of this bird to different parts of the British Islands.—T. B.]

" sheep-walks and downs. They breed on fallows and lay-fields " abounding with grey mossy flints, which much resemble their " young in colour; among which they skulk and conceal them- " selves. They make no nest, but lay their eggs on the bare " ground, producing in common but two at a time. There is " reason to think their young run soon after they are hatched; " and that the old ones do not feed them, but only lead them " about at the time of feeding, which, for the most part, is in " the night." Thus far my friend.

In the manners of this bird you see there is something very analogous to the bustard, whom it also somewhat resembles in aspect and make, and in the structure of it's feet.

For a long time I have desired my relation to look out for these birds in *Andalusia*; and now he writes me word that, for the first time, he saw one dead in the market on the 3rd of *September*.

When the *oedicnemus* flies it stretches out it's legs straight behind, like an heron.

I am, &c.

LETTER XXXIV.

TO THE SAME.

Selborne, March 30, 1771.

Dear Sir,

There is an insect with us, especially on chalky districts, which is very troublesome and teasing all the latter end of the summer, getting into people's skins, especially those of women and children, and raising tumours which itch intolerably. This animal (which we call an harvest bug) is very minute, scarce discernible to the naked eye; of a bright scarlet colour, and of the genus of *Acarus*. They are to be met with in gardens on kidneybeans, or any legumens; but prevail only in the hot months of summer. Warreners, as some have assured me, are much infested by them on chalky downs; where these insects swarm sometimes to so infinite a degree as to discolour

their nets, and to give them a reddish cast, while the men are so bitten as to be thrown into fevers.

There is a small long shining fly in these parts very troublesome to the housewife, by getting into the chimneys, and laying its eggs in the bacon while it is drying: these eggs produce maggots called *jumpers*, which, harbouring in the gammons and best parts of the hogs, eat down to the bone, and make great waste. This fly I suspect to be a variety of the *musca putris* of *Linnæus:* it is to be seen in the summer in the farm-kitchens on the bacon-racks and about the mantel-pieces, and on the ceilings.

The insect that infests turnips and many crops in the garden (destroying often whole fields while in their seedling leaves) is an animal that wants to be better known. The country people here call it the *turnip-fly* and *black dolphin;* but I know it to be one of the *coleoptera;* the "*chrysomela* "*oleracea, saltatoria, femoribus posticis crassissimis.*" In very hot summers they abound to an amazing degree, and, as you walk in a field or in a garden, make a pattering like rain, by jumping on the leaves of the turnips or cabbages.

There is an *Oestrus*, known in these parts to every ploughboy; which, because it is omitted by *Linnæus*, is also passed over by late writers, and that is the *curvicauda* of old *Moufet*, mentioned by *Derham* in his Physico-theology, p. 250: an insect worthy of remark for depositing it's eggs as it flies in so dextrous a manner on the single hairs of the legs and flanks of grass-horses. But then *Derham* is mistaken when he advances that this *Oestrus* is the parent of that wonderful star-tailed maggot which he mentions afterwards; for more modern entomologists have discovered that singular production to be derived from the egg of the *musca chamæleon:* see *Geoffroy*, t. 17, f. 4*.

* [For the following interesting note on the entomological references in the above letter, I am indebted to my friend Professor Westwood, of Oxford. "The entomological notes in Gilbert White's 34th letter require some annotation. The harvest-bug is the *Acarus autumnalis* of Shaw, generally placed in the genus *Leptus*; but as it is only six-legged it is evidently only an immature creature, and is probably the young of *Trombium lapidum*, the eggs of which (found on the surface of stones and pebbles

A full history of noxious insects hurtful in the field, garden, and house, suggesting all the known and likely means of destroying them, would be allowed by the public to be a most useful and important work. What knowledge there is of this sort lies scattered, and wants to be collected; great improvements would soon follow of course. A knowledge of the properties, œconomy, propagation, and in short of the life and conversation of these animals, is a necessary step to lead us to some method of preventing their depredations*.

As far as I am a judge, nothing would recommend entomology more than some neat plates that should well express the *generic distinctions* of insects according to *Linnæus;* for I am

on heaths &c.) form such beautiful microscopic objects. It appears to be identical with the Lepte rouget figured in Duméril's 'Considérations Générales,' pl. 52. fig. 2.

"The small shining fly reared from the *bacon-hoppers* is not a variety of the *Musca putris* of Linnæus. It is closely allied to the *Tyrophaga casei*, Kirby (*Piophila casei* auct. hodiern.), which is reared from the *cheese-hoppers*. The bacon-fly mentioned by G. W. is the *Piophila luteata* of Haliday. It is more robust than the cheese-fly, with shorter and thicker legs, and the wings shorter and yellowish, with thick yellow veins. The *Chrysomela oleracea saltatoria* is misnamed. The turnip-flea beetle to which G. W. alludes is the *Haltica nemorum* and *H. brassicæ*. *H. oleracea* is quite distinct. The *Œstrus curvicauda* mentioned by old Mouffet (p. 62, with reference to the σκολιπρον of Pennius), and mentioned also by Bonnet (Phys.-Theol., p. 248 k, edit. xii. 1754) is the common horse-bot (omitted by Linnæus, or confounded with the ox-bot, *Œ. bovis*), and is the *Œ. equi* of Bracy Clark. *Gasterophilus equi*, Leach, and the *Musca chamæleon*, mistaken by Bonnet as the perfect state of the horse-bot, is the *Stratiomys chamæleon*."

This *Œstrus curvicauda* appears to have been a subject of much interest and some difficulty to Gilbert White; and several allusions to it will be found in some of his letters to his brother John, now published.—T. B.]

* [Had Gilbert White lived some years later he would have had his wish amply fulfilled in the delightful 'Introduction to Entomology' of Messrs. Kirby and Spence, which is full of the most interesting information on every subject connected with the history of insects. It originally appeared in four volumes 8vo, and passed through several editions before Mr. Spence prepared it for publication in a more portable and popular form. In no part of the work is it more instructive than in that which is required in the above passage. To the chapter on "the direct and indirect injuries caused by insects," the reader is referred for information on the subjects alluded to in the above letter.—T. B.]

well assured that many people would study insects, could they set out with a more adequate notion of those distinctions than can be conveyed at first by words alone.

LETTER XXXV.

TO THE SAME.

Selborne, 1771.

Dear Sir,

Happening to make a visit to my neighbour's peacocks, I could not help observing that the trains of those magnificent birds appear by no means to be their tails; those long feathers growing not from their *uropygium*, but all up their backs. A range of short brown stiff feathers, about six inches long, fixed in the *uropygium*, is the real tail, and serves as the *fulcrum* to prop the train, which is long and top-heavy, when set on end. When the train is up, nothing appears of the bird before but it's head and neck; but this would not be the case were those long feathers fixed only in the rump, as may be seen by the turkey-cock when in a strutting attitude. By a strong muscular vibration these birds can make the shafts of their long feathers clatter like the swords of a sword-dancer; they then trample very quick with their feet, and run backwards towards the females.

I should tell you that I have got an uncommon *calculus ægogropila*, taken out of the stomach of a fat ox; it is perfectly round, and about the size of a large *Seville* orange; such are, I think, usually flat.

LETTER XXXVI.

TO THE SAME.

Sept. 1771.

Dear Sir,

The summer through I have seen but two of that large species

of bat which I call *vespertilio altivolans*, from it's manner of feeding high in the air: I procured one of them, and found it to be a male; and made no doubt, as they accompanied together, that the other was a female: but, happening in an evening or two to procure the other likewise, I was somewhat disappointed, when it appeared to be also of the same sex. This circumstance, and the great scarcity of this sort, at least in these parts, occasions some suspicions in my mind whether it is really a species, or whether it may not be the male part of the more known species, one of which may supply many females; as is known to be the case in sheep, and some other quadrupeds. But this doubt can only be cleared by a farther examination, and some attention to the sex, of more specimens: all that I know at present is, that my two were amply furnished with the parts of generation much resembling those of a boar.

In the extent of their wings they measured fourteen inches and an half: and four inches and an half from the nose to the tip of the tail: their heads were large, their nostrils bilobated, their shoulders broad and muscular; and their whole bodies fleshy and plump. Nothing could be more sleek and soft than their fur, which was of a bright chestnut colour; their maws were full of food, but so macerated that the quality could not be distinguished; their livers, kidnies, and hearts, were large, and their bowels covered with fat. They weighed each, when entire, full one ounce and one drachm. Within the ear there was somewhat of a peculiar structure that I did not understand perfectly; but refer it to the observation of the curious anatomist. These creatures sent forth a very rancid and offensive smell.

LETTER XXXVII.

TO THE SAME.

Selborne, 1771.

Dear Sir,

On the twelfth of *July* I had a fair opportunity of contemplating

the motions of the *caprimulgus*, or fern-owl, as it was playing round a large oak that swarmed with *scarabœi solstitiales*, or fern-chafers. The powers of its wing were wonderful, exceeding, if possible, the various evolutions and quick turns of the swallow genus. But the circumstance that pleased me most was that I saw it distinctly, more than once, put out its short leg while on the wing, and, by a bend of the head, deliver somewhat into its mouth. If it takes any part of its prey with its foot, as I have now the greatest reason to suppose it does these chafers, I no longer wonder at the use of it's middle toe, which is curiously furnished with a serrated claw.

Swallows and martins, the bulk of them I mean, have forsaken us sooner this year than usual; for, on *September* the twenty-second, they rendezvoused in a neighbour's walnut-tree, where it seemed probable they had taken up their lodging for the night. At the dawn of the day, which was foggy, they arose all together in infinite numbers, occasioning such a rushing from the strokes of their wings against the hazy air, as might be heard to a considerable distance: since that no flock has appeared, only a few stragglers.

Some swifts staid late, till the twenty-second of *August*—a rare instance! for they usually withdraw within the first week.°

On *September* the twenty-fourth three or four ring-ousels appeared in my fields for the first time this season: how punctual are these visitors in their autumnal and spring migrations!

LETTER XXXVIII.

TO THE SAME.

Selborne, March 15, 1773.

Dear Sir,

By my journal for last autumn it appears that the house-

° See letter liii. to Mr. Barrington.

martins bred very late, and staid very late in these parts; for, on the first of *October*, I saw young martins in their nests nearly fledged; and again, on the twenty-first of *October*, we had at the next house a nest full of young martins just ready to fly; and the old ones were hawking for insects with great alertness. The next morning the brood forsook their nest, and were flying round the village. From this day I never saw one of the swallow kind till *November* the third; when twenty, or perhaps thirty, house-martins were playing all day long by the side of the hanging wood, and over my fields. Did these small weak birds, some of which were nestlings twelve days ago, shift their quarters at this late season of the year to the other side of the northern tropic? Or rather, is it not more probable that the next church, ruin, chalk-cliff, steep covert, or perhaps sandbank, lake or pool (as a more northern naturalist would say,) may become their *hybernaculum*, and afford them a ready and obvious retreat?

We now begin to expect our vernal migration of ring-ousels every week. Persons worthy of credit assure me that ring-ousels were seen at *Christmas* 1770 in the forest of *Bere*, on the southern verge of this county. Hence we may conclude that their migrations are only internal, and not extended to the continent southward, if they do at first come at all from the northern parts of this island only, and not from the north of *Europe*. Come from whence they will, it is plain, from the fearless disregard that they shew for men or guns, that they have been little accustomed to places of much resort. Navigators mention that in the *Isle of Ascension*, and other such desolate districts, birds are so little acquainted with the human form that they settle on men's shoulders; and have no more dread of a sailor than they would have of a goat that was grazing. A young man at *Lewes*, in *Sussex*, assured me that about seven years ago ring-ousels abounded so about that town in the autumn that he killed sixteen himself in one afternoon: he added farther, that some had appeared since in every autumn; but he could not find that any had been observed before the season in which he shot so many. I myself have found these birds in little parties in the autumn cantoned all

along the *Sussex* downs, wherever there were shrubs and bushes, from *Chichester* to *Lewes*; particularly in the autumn of 1770.

I am, &c.

LETTER XXXIX.

TO THE SAME.

Selborne, Nov. 9, 1773.

DEAR SIR,

As you desire me to send you such observations as may occur, I take the liberty of making the following remarks, that you may, according as you think me right or wrong, admit or reject what I here advance, in your intended new edition of the *British Zoology*.

The osprey[p] was shot about a year ago at *Frinsham-pond*, a great lake, at about six miles from hence, while it was sitting on the handle of a plough and devouring a fish: it used to precipitate itself into the water, and so take it's prey by surprise.

A great ash-coloured [q]butcher-bird was shot last winter in *Tisted-park*, and a red-backed butcher-bird at *Selborne:* they are *rarœ aves* in this county.

Crows[r] go in pairs the whole year round.

Cornish choughs[s] abound, and breed on *Beachy-head* and on all the cliffs of the *Sussex* coast.

The common wild pigeon,[t] or stock-dove, is a bird of passage in the south of England, seldom appearing till towards the end of *November;* is usually the latest winter bird of passage. Before our beechen woods were so much destroyed we had myriads of them, reaching in strings for a mile together as they went out in a morning to feed. They leave us early in spring; where do they breed*?

[p] British Zoology, vol. i. p. 128. [q] p. 161. [r] p. 167.
[s] p. 198. [t] p. 216.

* [There must be some confusion here of the two species, the ring-

The people of *Hampshire* and *Sussex* call the missel-bird[u] the storm-cock, because it sings early in the spring in blowing showery weather; it's song often commences with the year: with us it builds much in orchards.

A gentleman assures me that he has taken the nests of ring-ousels[x] on *Dartmoor:* they build in banks on the sides of streams.

Titlarks[y] not only sing sweetly as they sit on trees, but also as they play and toy about on the wing; and particularly while they are descending, and sometimes as they stand on the ground.

Adanson's[z] testimony seems to me to be a very poor evidence that *European* swallows migrate during our winter to *Senegal:* he does not talk at all like an ornithologist; and probably saw only the swallows of that country, which I know build within Governor *O'Hara's* hall against the roof. Had he known *European* swallows, would he not have mentioned the species?

The *house-swallow* washes by dropping into the water as it

dove, *Columba palumbus*, and the stock-dove, *C. œnas*. It can scarcely be doubted that the "myriads of them, reaching in strings for a mile together, as they went out in the morning to feed," must have consisted either wholly of the common ring-dove, or more probably of the two species associated together, as they are known often to flock in company in the winter. White's query, "Where do they breed?" is readily answered, and his doubts if they ever breed in England easily solved. Selby, Yarrell, and many others give numerous localities as their breeding-places; but it is unnecessary to go beyond the precincts of what were formerly his own grounds for an interesting instance. I copy the following from my own notes. "A pair of them have built in the old pollard ash, in the hole formerly occupied for years by the barn-owls. They were repeatedly seen there, and both the eggs and the young birds observed." This was in April and May 1867. They bred again the following year in the same place. I have repeatedly heard their peculiar coo (so different from that of the ring-dove) in the breeding-season for several successive years. It is, however, quite possible that it did not breed at Selborne in White's time. In the north of England it is only a summer visitant; but it cannot be strictly called a migratory bird in this country. See Selby, Brit. Ornith. i. p. 408; Yarrell, Br. Birds ii. p. 236. I have also repeatedly heard the soft murmur of the turtledove, *C. turtur*, at Selborne, in my own grounds on a summer evening.—T. B.]

[u] Brit. Zool. vol. i. p. 224. [x] p. 229. [y] Vol. ii. p. 237. [z] p. 242.

flies: this species appears commonly about a week before the *house-martin*, and about ten or twelve days before the *swift*.

In 1772 there were young house-martins[a] in their nest till *October* the twenty-third.

The *swift*[b] appears about *ten* or *twelve* days later than the *house-swallow: viz.* about the twenty-fourth or twenty-sixth of *April*.

Whin-chats and *stone-chatters*[c] stay with us the whole year *.

Some wheat-ears[d] continue with us the winter through.

Wagtails, all sorts, remain with us all the winter†.

Bulfinches,[e] when fed on hempseed, often become wholly black.

We have vast flocks of *female* chaffinches[f] all the winter, with hardly any males among them.

When you say that in breeding time the cock-snipes[g] make a bleating noise, and I a drumming (perhaps I should have rather said an humming), I suspect we mean the same thing. However, while they are playing about on the wing they certainly make a loud piping with their mouths: but whether that bleating or humming is ventriloquous, or proceeds from the motion of their wings, I cannot say; but this I know, that when this noise happens the bird is always descending, and his wings are violently agitated‡.

[a] Brit. Zool. vol. ii. p. 244. [b] 245. [c] 270, 271.

* [This statement is repeated in the 1st letter to Daines Barrington. There is, however, no doubt that the whin-chat is a migratory bird. It would appear that the stone-chat leaving us is the exception; and the whin-chat remaining during the winter is even more exceptional. Mr. Herbert, in a note on this subject in Bennett's edition, states that both species migrate almost wholly. We have, on the other hand, Montagu and Yarrell supporting the view given above.—T. B.]

† [This is a mistake; the yellow wagtail does not remain with us during the winter. White doubtless confounded the yellow and the grey species.—T. B.]

‡ [This humming sound is certainly produced by a peculiar motion of the quill feathers of the wings as the bird is descending. This was fully described by Mr. Herbert in Bennett's edition, p. 167, and subsequently by Selby, Harting, and others.—T. B.]

[d] 269. [e] 300. [f] 306. [g] 358.

Soon after the lapwings[h] have done breeding they congregate, and, leaving the moors and marshes, betake themselves to downs and sheep-walks.

Two years ago[i] last spring the little auk was found alive and unhurt, but fluttering and unable to rise, in a lane a few miles from *Alresford*, where there is a great lake: it was kept awhile, but died *.

I saw young teals[k] taken alive in the ponds of *Wolmer-forest* in the beginning of *July* last, along with flappers, or young wild ducks.

Speaking of the *swift*,[l] that page says "*it's drink the dew;*" whereas it should be "it drinks on the wing;" for all the swallow kind sip their water as they sweep over the face of pools or rivers: like *Virgil's* bees, they drink flying, "*flumina summa libant.*" In this method of drinking perhaps this genus may be peculiar.

Of the sedge-bird[m] † be pleased to say it sings most part of the night; it's notes are hurrying, but not unpleasing, and imitative of several birds; as the sparrow, swallow, sky-lark. When it happens to be silent in the night, by throwing a stone or clod into the bushes where it sits you immediately set it a singing; or in other words, though it slumbers sometimes, yet as soon as it is awakened it reassumes it's song.

[h] Brit. Zool. vol. ii. p. 360. [i] 409.

* [On the 19th of November, 1861, a living specimen of the little auk, *Mergulus alle*, was sent to me by my friend the late William Butler, Esq., of Le Court, in this neighbourhood. It reached me alive, but soon died, and is now in the Alton Museum. The weather had been very stormy for some time previous. In the same week two were taken in Yorkshire.—T. B.]

[k] p. 475. [l] p. 15. [m] p. 16.

† [*Acrocephalus schœnobœnus.* Yarr. Br. Birds, Newton's edit. i. p. 376.—T. B.]

LETTER XL.

TO THE SAME.

Selborne, Sept. 2, 1774.

DEAR SIR,

BEFORE your letter arrived, and of my own accord, I had been remarking and comparing the tails of the male and female swallow, and this ere any young broods appeared; so that there was no danger of confounding the dams with their *pulli:* and besides, as they were then always in pairs, and busied in the employ of nidification, there could be no room for mistaking the sexes, nor the individuals of different chimnies the one for the other. From all my observations, it constantly appeared that each sex has the long feathers in it's tail that give it that forked shape; with this difference, that they are longer in the tail of the male than in that of the female.

Nightingales, when their young first come abroad, and are helpless, make a plaintive and a jarring noise; and also a snapping or cracking, pursuing people along the hedges as they walk: these last sounds seem intended for menace and defiance.

The grasshopper-lark chirps all night in the height of summer.

Swans turn white the second year, and breed the third.

Weasels prey on moles, as appears by their being sometimes caught in mole-traps.

Sparrow-hawks sometimes breed in old crows' nests, and the kestril in churches and ruins.

There are supposed to be two sorts of eels in the island of *Ely*. The threads sometimes discovered in eels are perhaps their young: the generation of eels is very dark and mysterious*.

Hen-harriers breed on the ground, and seem never to settle on trees.

When redstarts shake their tails they move them horizon-

* [For a complete elucidation of this subject see Yarrell's Brit. Fishes ii. 289.—T. B.]

tally, as dogs do when they fawn : the tail of a wagtail, when in motion, bobs up and down like that of a jaded horse.

Hedge-sparrows have a remarkable flirt with their wings in breeding-time ; as soon as frosty mornings come they make a very piping plaintive noise.

Many birds which become silent about *Midsummer* reassume their notes again in *September;* as the thrush, blackbird, woodlark, willow-wren, &c. ; hence *August* is by much the most mute month, the spring, summer, and autumn through. Are birds induced to sing again because the temperament of autumn resembles that of spring ?

Linnæus ranges plants geographically ; palms inhabit the tropics, grasses the temperate zones, and mosses and lichens the polar circles ; no doubt animals may be classed in the same manner with propriety.

House-sparrows build under eaves in the spring ; as the weather becomes hotter they get out for coolness, and nest in plum-trees and apple-trees. These birds have been known sometimes to build in rooks' nests, and sometimes in the forks of boughs under rooks' nests.

As my neighbour was housing a rick he observed that his dogs devoured all the little red mice that they could catch, but rejected the common mice ; and that his cats ate the common mice refusing the red.

Red-breasts sing all through the spring, summer, and autumn. The reason that they are called autumn songsters is, because in the two first seasons their voices are drowned and lost in the general chorus ; in the latter their song becomes distinguishable. Many songsters of the autumn seem to be the young cock red-breasts of that year : notwithstanding the prejudices in their favour, they do much mischief in gardens to the summer-fruits.[n]

The titmouse, which early in *February* begins to make two quaint notes, like the whetting of a saw, is the marsh titmouse : the great titmouse sings with three cheerful joyous notes, and begins about the same time.

[n] They eat also the berries of the ivy, the honey-suckle, and the *euonymus europæus*, or spindle-tree.

Wrens sing all the winter through, frost excepted.

House-martins came remarkably late this year both in *Hampshire* and *Devonshire:* is this circumstance for or against either hiding or migration?

Most birds drink sipping at intervals; but pigeons take a long continued draught, like quadrupeds.

Notwithstanding what I have said in a former letter, no grey crows were ever known to breed on *Dartmoor;* it was my mistake.

The appearance and flying of the *scarabæus solstitialis*, or fern-chafer, commence with the month of *July*, and cease about the end of it. These scarabs are the constant food of *caprimulgi*, or fern-owls, through that period. They abound on the chalky downs and in some sandy districts, but not in the clays.

In the garden of the *Black-bear* inn in the town of *Reading* is a stream or canal running under the stables and out into the fields on the other side of the road: in this water are many carps, which lie rolling about in sight, being fed by travellers, who amuse themselves by tossing them bread: but as soon as the weather grows at all severe these fishes are no longer seen, because they retire under the stables, where they remain till the return of spring. Do they lie in a torpid state? if they do not, how are they supported?

The note of the white-throat, which is continually repeated, and often attended with odd gesticulations on the wing, is harsh and displeasing. These birds seem of a pugnacious disposition; for they sing with an erected crest and attitudes of rivalry and defiance; are shy and wild in breeding-time, avoiding neighbourhoods, and haunting lonely lanes and commons; nay even the very tops of the *Sussex-downs*, where there are bushes and covert; but in *July* and *August* they bring their broods into gardens and orchards, and make great havock among the summer-fruits.

The black-cap has in common a full, sweet, deep, loud, and wild pipe; yet that strain is of short continuance, and his motions are desultory; but when that bird sits calmly and en-

gages in song in earnest, he pours forth very sweet, but inward melody, and expresses great variety of soft and gentle modulations, superior perhaps to those of any of our warblers, the nightingale excepted.

Black-caps mostly haunt orchards and gardens; while they warble their throats are wonderfully distended.

The song of the redstart is superior, though somewhat like that of the white-throat: some birds have a few more notes than others. Sitting very placidly on the top of a tall tree in a village, the cock sings from morning to night: he affects neighbourhoods, and avoids solitude, and loves to build in orchards and about houses; with us he perches on the vane of a tall maypole.

The fly-catcher is of all our summer birds the most mute and the most familiar; it also appears the last of any. It builds in a vine, or a sweetbriar, against the wall of an house, or in the hole of a wall, or on the end of a beam or plate, and often close to the post of a door where people are going in and out all day long. This bird does not make the least pretension to song, but uses a little inward wailing note when it thinks it's young in danger from cats or other annoyances: it breeds but once, and retires early *.

Selborne parish alone can and has exhibited at times more than half the birds that are ever seen in all *Sweden;* the former has produced more than one hundred and twenty species, the latter only two hundred and twenty-one. Let me add

* [The tameness of the common flycatcher is one of the pleasant qualities of this interesting little bird. A pair built and had their young in the ivy on my house. Three young ones, nearly fledged, were blown out of the nest, and were picked up unhurt and placed in a cage with the door open, and hung outside the kitchen window. They all sat at the open door, and the parent birds immediately came to them, and supplied them diligently with food all the day, without the least appearance of fear. At night the cage was taken into the kitchen; and in the morning it was again hung out as on the day before, and the parents resumed their care. This continued for a few days, until the young birds could fly; and then, instead of leaving the place at once, they all, parents and offspring, continued to haunt the shrubs close to the scene of their artificial nursery. I have known several instances confirmatory of Mr. Yarrell's supposition that this bird returns to the same nesting-place year after year. My late

also that it has shown near half the species that were ever known in *Great-Britain*.[p]

On a retrospect, I observe that my long letter carries with it a quaint and magisterial air, and is very sententious; but, when I recollect that you requested stricture and anecdote, I hope you will pardon the didactic manner for the sake of the information it may happen to contain.

LETTER XLI.

TO THE SAME.

It is matter of curious inquiry to trace out how those species of soft-billed birds, that continue with us the winter through, subsist during the dead months. The imbecility of birds seems not to be the only reason why they shun the rigour of our winters; for the robust *wry-neck* (so much resembling the hardy race of *wood-peckers*) migrates, while the feeble little *golden-crowned wren*, that shadow of a bird, braves our severest frosts without availing himself of houses or villages, to which most of our winter birds crowd in distressful seasons, while this keeps aloof in fields and woods; but perhaps this may be the reason why they may often perish, and why they are almost as rare as any bird we know*.

I have no reason to doubt but that the soft-billed birds, which winter with us, subsist chiefly on insects in their *aurelia* state. All the species of *wagtails* in severe weather haunt shallow streams near their spring-heads, where they never

friend, the Baroness de Sternberg, wrote to me from her residence on the Lake of Windermere, "The little flycatchers have built for the last five years in the same corner of the greenhouse; and now one of her family has come to build too, where the mother has been so welcome." A portion of bark on the trunk of a sycamore in my own garden stood out as if partially detached. Underneath this scanty penthouse a pair of these birds built every spring for several years, until the tree was taken down. —T. B.]

[p] *Sweden*, 221, *Great-Britain*, 252 species.

* [This bird migrates in multitudes. See Yarrell's Brit. Birds, Prof. Newton's edit. i. p. 451 *et seq.*—T. B.]

freeze; and, by wading, pick out the aurelias of the genus of [q]*Phryganeæ*, &c.

Hedge-sparrows frequent sinks and gutters in hard weather, where they pick up crumbs and other sweepings: and in mild weather they procure worms, which are stirring every month in the year, as any one may see that will only be at the trouble of taking a candle to a grass-plot on any mild winter's night. Red-breasts and wrens in the winter haunt out-houses, stables, and barns, where they find spiders and flies that have laid themselves up during the cold season. But the grand support of the soft-billed birds in winter is that infinite profusion of *aureliæ* of the *lepidoptera ordo*, which is fastened to the twigs of trees and their trunks; to the pales and walls of gardens and buildings; and is found in every cranny and cleft of rock or rubbish, and even in the ground itself.

Every species of titmouse winters with us; they have what I call a kind of intermediate bill between the hard and the soft, between the *Linnæan* genera of *fringilla* and *motacilla*. One species alone spends it's whole time in the woods and fields, never retreating for succour in the severest seasons to houses and neighbourhoods; and that is the delicate long-tailed titmouse, which is almost as minute as the golden-crowned wren: but the blue titmouse, or nun *(parus cæruleus)*, the cole-mouse *(parus ater)*, the great black-headed titmouse *(fringillago)*, and the marsh titmouse *(parus palustris)*, all resort, at times, to buildings; and in hard weather particularly. The great titmouse, driven by stress of weather, much frequents houses, and, in deep snows, I have seen this bird, while it hung with it's back downwards (to my no small delight and admiration), draw straws lengthwise from out the eaves of thatched houses, in order to pull out the flies that were concealed between them, and that in such numbers that they quite defaced the thatch, and gave it a ragged appearance.

The blue *titmouse*, or *nun*, is a great frequenter of houses, and a general devourer. Besides insects, it is very fond of flesh; for it frequently picks bones on dunghills: it is a vast

[q] See *Derham's* Physico-theology, p. 235.

admirer of suet, and haunts butchers' shops. When a boy, I have known twenty in a morning caught with snap mouse-traps, baited with tallow or suet. It will also pick holes in apples left on the ground, and be well entertained with the seeds on the head of a sun-flower*. The blue, marsh, and great titmice will, in very severe weather, carry away barley and oat straws from the sides of ricks.

How the *wheat-ear* and *whin-chat* support themselves in winter cannot be so easily ascertained, since they spend their time on wild heaths and warrens; the former especially, where there are stone quarries: most probably it is that their maintenance arises from the *aureliæ* of the *lepidoptera ordo*, which furnish them with a plentiful table in the wilderness.

I am, &c.

LETTER XLII.

TO THE SAME.

Selborne, March 9, 1775.

Dear Sir,

Some future *faunist*, a man of fortune, will, I hope, extend his visits to the kingdom of *Ireland;* a new field, and a country little known to the naturalist†. He will not, it is to be wished, undertake that tour unaccompanied by a botanist, because the mountains have scarcely been sufficiently examined; and the southerly counties of so mild an island may possibly afford some plants little to be expected within the *British* dominions. A person of a thinking turn of mind will draw many just remarks from the modern improvements of that

* [It is amusing to see the blue titmouse taking the seeds of the garden poppy. It lays hold of the stem with both feet just below the ripe poppy-head, and, picking a hole in each cell of the capsule in succession, receives the seed which falls from it. I have often witnessed this clever act, and have seen the capsule with a hole neatly pierced in the under part of each cell.—T. B.]

† [Both the botany and zoology of Ireland have been well investigated since White's time. It was a matter of particular interest with him, and forms the subject of a still more pressing letter to Pennant than this.—T. B.]

country, both in arts and agriculture, where premiums obtained long before they were heard of with us. The manners of the wild natives, their superstitions, their prejudices, their sordid way of life, will extort from him many useful reflections. He should also take with him an able draughtsman; for he must by no means pass over the noble castles and seats, the extensive and picturesque lakes and waterfalls, and the lofty stupendous mountains, so little known, and so engaging to the imagination when described and exhibited in a lively manner: such a work would be well received.

As I have seen no modern map of *Scotland*, I cannot pretend to say how accurate or particular any such may be; but this I know, that the best old maps of that kingdom are very defective.

The great obvious defect that I have remarked in all maps of *Scotland* that have fallen in my way is, a want of a *coloured line*, or *stroke*, that shall exactly define the just limits of that district called *The Highlands*. Moreover, all the great avenues to that mountainous and romantic country want to be well distinguished. The military roads formed by general *Wade* are so great and Roman-like an undertaking that they well merit attention. My old map, *Moll's* Map, takes notice of *Fort William;* but could not mention the other forts that have been erected long since: therefore a good representation of the chain of forts should not be omitted.

The celebrated zigzag up the *Coryarich* must not be passed over. *Moll* takes notice of *Hamilton* and *Drumlanrig*, and such capital houses; but a new survey, no doubt, should represent every seat and castle remarkable for any great event, or celebrated for it's paintings, &c. Lord *Breadalbane's* seat and beautiful *policy* are too curious and extraordinary to be omitted.

The seat of the Earl of *Eglintoun*, near *Glasgow*, is worthy of notice. The pine plantations of that nobleman are very grand and extensive indeed.

I am, &c.

LETTER XLIII.

TO THE SAME.

DEAR SIR,

A PAIR of *honey-buzzards, buteo apivorus*, sive vespivorus Raii,* built them a large shallow nest, composed of twigs and lined with dead beechen leaves, upon a tall slender beech near the middle of *Selborne-hanger,* in the summer of 1780. In the middle of the month of *June* a bold boy climbed this tree, though standing on so steep and dizzy a situation, and brought down an egg, the only one in the nest, which had been sat on for some time, and contained the embrio of a young bird. The egg was smaller, and not so round as those of the common buzzard; was dotted at each end with small red spots, and surrounded in the middle with a broad bloody zone.

The hen-bird was shot, and answered exactly to Mr. *Ray's* description of that species; had a black *cere,* short thick legs, and a long tail. When on the wing this species may be easily distinguished from the *common buzzard* by it's hawk-like appearance, small head, wings not so blunt, and longer tail. This specimen contained in it's craw some limbs of frogs, and many grey snails without shells. The *irides* of the eyes of this bird were of a beautiful bright yellow colour.

About the tenth of *July* in the same summer a pair of *sparrow-hawks* bred in an old crow's nest on a low beech in the same hanger; and as their brood, which was numerous began to grow up, became so daring and ravenous, that they were a terror to all the dames in the village that had chickens or ducklings under their care. A boy climbed the tree, and found the young so fledged that they all escaped from him; but discovered that a good house had been kept: the larder was well-stored with provisions; for he brought down a young blackbird, jay, and house-martin, all clean picked, and some half devoured. The old birds had been observed to make sad

* [*Pernis apivorus,* Cuv. Règ. An.—T. B.]

havock for some days among the new-flown swallows and martins, which, being but lately out of their nests, had not acquired those powers and command of wing that enable them, when more mature, to set such enemies at defiance.

LETTER XLIV.

TO THE SAME.

Selborne, Nov. 30, 1780.

DEAR SIR,

EVERY incident that occasions a renewal of our correspondence will ever be pleasing and agreeable to me.

As to the wild *wood-pigeon*, the *oenas*, or *vinago*, of *Ray*, I am much of your mind; and see no reason for making it the origin of the common *house-dove:* but suppose those that have advanced that opinion may have been misled by another appellation, often given to the *oenas*, which is that of *stock-dove*.

Unless the stock-dove in the winter varies greatly in manners from itself in summer, no species seems more unlikely to be domesticated, and to make an *house-dove*. We very rarely see the latter settle on trees at all, nor does it ever haunt the woods; but the former, as long as it stays with us, from *November* perhaps to *February*, lives the same wild life with the *ring-dove, palumbus torquatus;* frequents coppices and groves, supports itself chiefly by mast, and delights to roost in the tallest beeches. Could it be known in what manner stock-doves build, the doubt would be settled with me at once, provided they construct their nests on trees, like the *ring-dove*, as I much suspect they do.

You received, you say, last spring a *stock-dove* from *Sussex;* and are informed that they sometimes breed in that county. But why did not your correspondent determine the place of it's nidification, whether on rocks, cliffs, or trees? If he was not an adroit ornithologist I should doubt the fact, because people with us perpetually confound the *stock-dove* with the *ring-dove*.

For my own part, I readily concur with you in supposing that house-doves are derived from the *small blue rock-pigeon**, for many reasons. In the first place the wild stock-dove is manifestly larger than the common house-dove, against the usual rule of domestication, which generally enlarges the breed. Again, those two remarkable *black spots* on the remiges of each wing of the stock-dove, which are so characteristic of the species, would not, one should think, be totally lost by it's being reclaimed ; but would often break out among its descendants. But what is worth an hundred arguments is, the instance you give in Sir *Roger Mostyn's* house-doves, in *Caernarvonshire;* which, though tempted by plenty of food and gentle treatment, can never be prevailed on to inhabit their cote for any time ; but, as soon as they begin to breed, betake themselves to the fastnesses of *Ormshead*, and deposit their young in safety amidst the inaccessible caverns, and precipices of that stupendous promontory.

"Naturam expellas furcâ. . . tamen usque recurret."

I have consulted a sportsman, now in his seventy-eighth year, who tells me that fifty or sixty years back, when the beechen woods were much more extensive than at present, the number of wood-pigeons was astonishing ; that he has often killed near twenty in a day ; and that with a long wild-fowl piece he has shot seven or eight at a time on the wing as they came wheeling over his head: he moreover adds, which I was not aware of, that often there were among them little parties of small *blue doves*, which he calls *rockiers*. The food of these numberless emigrants was beech-mast and some acorns ; and particularly barley, which they collected in the stubbles. But of late years, since the vast increase of turnips, that vegetable has furnished a great part of their support in hard weather ; and the holes they pick in these roots greatly damage the crop. From this food their flesh has contracted a rancidness which occasions them to be rejected by nicer judges of eating,

* [*Columba livia*, Bris. There is now no doubt that this is the origin of the domestic pigeon. See Darwin's most remarkable and interesting chapters in his treatise 'Animals and plants under domestication,' vol. i. pp. 131, 221.—T. B.]

who thought them before a delicate dish. They were shot not only as they were feeding in the fields, and especially in snowy weather, but also at the close of the evening, by men who lay in ambush among the woods and groves to kill them as they came in to roost.[r] These are the principal circumstances relating to this wonderful *internal* migration, which with us takes place towards the end of *November*, and ceases early in the spring. Last winter we had in *Selborne* high wood about an hundred of these doves; but in former times the flocks were so vast not only with us but all the district round, that on mornings and evenings they traversed the air, like rooks, in strings, reaching for a mile together*. When they thus rendezvoused here by thousands, if they happened to be suddenly roused from their roost-trees on an evening,

> "Their rising all at once was like the sound
> "Of thunder heard remote."——

It will by no means be foreign to the present purpose to add, that I had a relation in this neighbourhood who made it a practice for a time, whenever he could procure the eggs of a *ring-dove*, to place them under a pair of doves that were sitting in his own pigeon-house; hoping thereby, if he could bring about a coalition, to enlarge his breed, and teach his own doves to beat out into the woods and to support themrelves by mast: the plan was plausible, but something always interrupted the success; for though the birds were usually hatched, and sometimes grew to half their size, yet none ever arrived at maturity. I myself have seen these foundlings in their nest displaying a strange ferocity of nature, so as scarcely to bear to be looked at, and snapping with their bills by way of menace. In short, they always died, perhaps for want of proper sustenance: but the owner thought that by their fierce and wild demeanour they frighted their foster-mothers, and so were starved.

Virgil, as a familiar occurrence, by way of simile, describes

[r] Some old sportsmen say that the main part of these flocks used to withdraw as soon as the heavy *Christmas* frosts were over.

* [See the note at page 96.—T. B.]

a dove haunting the cavern of a rock in such engaging numbers, that I cannot refrain from quoting the passage: and *John Dryden* has rendered it so happily in our language, that without farther excuse I shall add his translation also.

"Qualis speluncâ subitò commota Columba,
"Cui domus, et dulces latebroso in pumice nidi,
"Fertur in arva volans, plausumque exterrita pennis
"Dat tecto ingentem—mox aere lapsa quieto,
"Radit iter liquidum, celeres neque commovet alas."

"As when a dove her rocky hold forsakes,
"Rous'd, in a fright her sounding wings she shakes;
"The cavern rings with clattering:—out she flies,
"And leaves her callow care, and cleaves the skies:
"At first she flutters:—but at length she springs
"To smoother flight, and shoots upon her wings."

I am, &c.

LETTER I.

TO THE HONOURABLE DAINES BARRINGTON.

Selborne, June 30, 1769.

DEAR SIR,

WHEN I was in town last month I partly engaged that I would sometime do myself the honour to write to you on the subject of natural history: and I am the more ready to fulfil my promise, because I see you are a gentleman of great candour, and one that will make allowances; especially where the writer professes to be an *out-door naturalist*, one that takes his observations from the subject itself, and not from the writings of others.

The following is a List of the Summer Birds of Passage which I have discovered in this neighbourhood, ranged somewhat in the order which they appear:

	RAII NOMINA.	USUALLY APPEARS ABOUT
1. Wryneck,	*Jynx, sive torquilla:*	The middle of *March*: harsh note.
2. Smallest willow-wren,	*Regulus non cristatus:*	*March* 23: chirps till *September*.
3. Swallow,	*Hirundo domestica:*	*April* 13.
4. Martin,	*Hirundo rustica:*	Ditto.
5. Sand-martin,	*Hirundo riparia:*	Ditto.
6. Black-cap,	*Atricapilla:*	Ditto: a sweet wild note.
7. Nightingale,	*Luscinia:*	Beginning of *April*.
8. Cuckoo,	*Cuculus:*	Middle of *April*.
9. Middle willow-wren,	*Regulus non cristatus:*	Ditto: a sweet plaintive note
10. White-throat,	*Ficedulæ affinis:*	Ditto: mean note; sings on till *September*.
11. Red-start,	*Ruticilla:*	Ditto: more agreeable song.

	RAII NOMINA.	USUALLY APPEARS ABOUT
12. Stone-curlew,	*Oedicnemus:*	End of *March:* loud nocturnal whistle.
13. Turtle-dove,	*Turtur:*	
14. Grasshopper-lark,	*Alauda minima locustæ voce:*	Middle of *April:* a small sibilous note, till the end of *July.*
15. Swift,	*Hirundo apus:*	About *April* 27.
16. Less reed-sparrow,	*Passer arundinaceus minor:*	A sweet polyglot, but hurrying: it has the notes of many birds.
17. Land-rail,	*Ortygometra:*	A loud harsh note, crex, crex.
18. Largest willow-wren,	*Regulus non cristatus:*	Cantat voce stridulâ locustæ; end of *April,* on the tops of high beeches.
19. Goat-sucker, or fern-owl,	*Caprimulgus:*	Beginning of *May;* chatters by night with a singular noise.
20. Fly-catcher,	*Stoparola:*	*May* 12. A very mute bird: This is the latest summer bird of passage.

This assemblage of curious and amusing birds belongs to ten several genera of the *Linnæan* system ; and are all of the *ordo* of *passeres,* save the *jynx* and *cuculus,* which are *picæ,* and the *charadrius (oedicnemus)* and *rallus (ortygometra),* which are *grallæ.*

These birds, as they stand numerically, belong to the following *Linnæan* genera :

1,	*Jynx:*	13. *Columba:*
2, 6, 7, 9, 10, 11, 16, 18.	*Motacilla:*	17. *Rallus:*
3, 4, 5, 15.	*Hirundo:*	19. *Caprimulgus:*
8.	*Cuculus:*	14. *Alauda:*
12.	*Charadrius:*	20. *Muscicapa.*

Most soft-billed birds live on insects, and not on grain and seeds ; and therefore at the end of summer they retire : but the following soft-billed birds, though insect-eaters, stay with us the year round :

	RAII NOMINA.	
Redbreast,	*Rubecula:*	These frequent houses ; and haunt outbuildings in the winter ; eat spiders.
Wren,	*Passer troglodytes:*	

	RAII NOMINA.	
Hedge-sparrow,	*Curruca:*	Haunt sinks for crumbs and other sweepings.
White-wagtail,	*Motacilla alba:*	These frequent shallow rivulets near the spring heads, where they never freeze: eat the aureliæ of Phryganea. The smallest birds that walk.
Yellow-wagtail,	*Motacilla flava:*	
Grey wagtail,	*Motacilla cinerea:*	
Wheat-ear,	*Oenanthe:*	Some of these are to be seen with us the winter through.
Whin-chat*,	*Oenanthe secunda:*	
Stone-chatter,	*Oenanthe tertia:*	
Golden-crowned wren,	*Regulus cristatus:*	This is the smallest British bird: haunts the tops of tall trees; stays the winter through.

A List of the Winter Birds of Passage round this neighbourhood, ranged somewhat in the order in which they appear:

1. Ring-ousel,	*Merula torquata:*	This is a new migration which I have lately discovered about *Michaelmas* week, and again about the fourteenth of *March*.
2. Redwing,	*Turdus iliacus:*	About old *Michaelmas*.
3. Fieldfare,	*Turdus pilaris:*	Though a percher by day, roosts on the ground.
4. Royston-crow,	*Cornix cinerea:*	Most frequent on downs.
5. Woodcock,	*Scolopax:*	Appears about old *Michaelmas*.
6. Snipe,	*Gallinago minor:*	Some snipes constantly breed with us.
7. Jack-snipe,	*Gallinago minima:*	
8. Wood-pigeon,	*Oenas:*	Seldom appears till late: not in such plenty as formerly.
9. Wild-swan,	*Cygnus ferus:*	On some large waters.
10. Wild-goose,	*Anser ferus:*	
11. Wild-duck,	*Anas torquata minor:*	On our lakes and streams.
12. Pochard,	*Anas fera fusca:*	
13. Wigeon,	*Penelope:*	
14. Teal, breeds with us in *Wolmer-forest*	*Querquedula:*	
15. Gross-beak,	*Coccothraustes:*	These are only wanderers that appear occasionally, and are not observant of any regular migration.
16. Cross-bill,	*Loxia:*	
17. Silk-tail,	*Garrulus bohemicus:*	

* [See note to Letter XXXIX. to Pennant, p. 98, on the migration of the yellow wagtail and whin-chat.—T. B.]

These birds, as they stand numerically, belong to the following *Linnæan* genera :

1, 2, 3,	*Turdus :*	9, 10, 11, 12, 13, 14,	*Anas :*
4,	*Corvus :*		
5, 6, 7,	*Scolopax :*	15, 16,	*Loxia :*
8,	*Columba :*	17.	*Ampelis :*

Birds that sing in the night are but few.

Nightingale,	*Luscinia :*	"In shadiest covert hid." MILTON.
Woodlark,	*Alauda arborea :*	Suspended in mid air.
Less reed-sparrow,	*Passer arundinaceus minor :*	Among reeds and willows.

I should now proceed to such birds as continue to sing after *Midsummer*, but, as they are rather numerous, they would exceed the bounds of this paper : besides, as this is now the season for remarking on that subject, I am willing to repeat my observations on some birds concerning the continuation of whose song I seem at present to have some doubt.

I am, &c.

LETTER II.

TO THE SAME.

Selborne, Nov. 2, 1769.

DEAR SIR,

WHEN I did myself the honour to write to you about the end of last *June* on the subject of natural history, I sent you a list of the summer-birds of passage which I have observed in this neighbourhood ; and also a list of the winter-birds of passage: I mentioned besides those soft-billed birds that stay with us the winter through in the south of *England*, and those that are remarkable for singing in the night.

According to my proposal, I shall now proceed to such birds (singing birds strictly so called) as continue in full song till after *Midsummer;* and shall range them somewhat in the order in which they first begin to open as the spring advances.

	RAII NOMINA.	
1. Wood-lark,	*Alauda arborea:*	In *January*, and continues to sing through all the summer and autumn.
2. Song-thrush,	*Turdus simpliciter dictus:*	In *February* and on to *August*, reassume their song in autumn.
3. Wren,	*Passer troglodytes:*	All the year, hard frost excepted.
4. Redbreast,	*Rubecula:*	Ditto.
5. Hedge-sparrow,	*Curruca:*	Early in *February* to *July* the 10th.
6. Yellowhammer,	*Emberiza flava:*	Early in *February*, and on through *July* to *August* the 21st.
7. Skylark,	*Alauda vulgaris:*	In *February*, and on to *October*.
8. Swallow,	*Hirundo domestica:*	From *April* to *September*.
9. Black-cap,	*Atricapilla:*	Beginning of *April* to *July* 13th.
10. Titlark,	*Alauda pratorum:*	From middle of *April* to *July* the 16th.
11. Blackbird,	*Merula vulgaris:*	Sometimes in *February* and *March*, and so on to *July* the twenty-third; reassumes in autumn.
12. White-throat,	*Ficedulæ affinis:*	In *April* and on to *July* 23.
13. Goldfinch,	*Carduelis:*	*April* and through to *September* 16.
14. Greenfinch,	*Chloris:*	On to *July* and *August* 2.
15. Less reed-sparrow,	*Passer arundinaceus minor:*	*May*, on to beginning of *July*.
16. Common linnet,	*Linaria vulgaris:*	Breeds and whistles on till *August*; reassumes it's note when they begin to congregate in *October*, and again early before the flock separate.

Birds that cease to be in full song, and are usually silent at or before *Midsummer:*

17. Middle willow-wren,	*Regulus non cristatus:*	Middle of *June;* begins in *April.*
18. Redstart,	*Ruticilla:*	Ditto: begins in *May.*
19. Chaffinch,	*Fringilla:*	Beginning of *June:* sings first in *February.*
20. Nightingale,	*Luscinia:*	Middle of *June:* sings first in *April.*

Birds that sing for a short time, and very early in the spring :

	RAII NOMINA.	
21. Missel-bird,	*Turdus viscivorus :*	*January* the 2d, 1770, in *February*. Is called in *Hampshire* and *Sussex* the storm-cock, because it's song is supposed to forebode windy wet weather: is the largest singing bird we have.
22. Great titmouse, or ox-eye.	*Fringillago :*	In *February*, *March*, *April :* reassumes for a short time in *September*.

Birds that have somewhat of a note or song, and yet are hardly to be called singing birds :

23. Golden-crowned wren,	*Regulus cristatus :*	It's note as minute as it's person; frequents the tops of high oaks and firs: the smallest *British* bird.
24. Marsh titmouse,	*Parus palustris :*	Haunts great woods: two harsh sharp notes.
25. Small willow-wren,	*Regulus non cristatus:*	Sings in *March* and on to *September*.
26. Largest ditto,	*Ditto :*	*Cantat vocestridulâ locustæ;* from end of *April* to *August*.
27. Grasshopper-lark,	*Alauda minima voce locustæ :*	Chirps all night, from the middle of *April* to the end of *July*.
28. Martin,	*Hirundo agrestis :*	All the breeding time; from *May* to *September*.
29. Bullfinch,	*Pyrrhula :*	
30. Bunting,	*Emberiza alba :*	From the end of *January* to *July*.

All singing birds, and those that have any pretensions to song, not only in *Britain*, but perhaps the world through, come under the *Linnæan ordo* of *passeres*.

The above-mentioned birds, as they stand numerically, belong to the following *Linnæan* genera.

1, 7, 10, 27.	*Alauda :*	8, 28.	*Hirundo.*
2, 11, 21.	*Turdus :*	13, 16, 19.	*Fringilla.*
3, 4, 5, 9, 12, 15, 17, 18, 20, 23, 25, 26.	*Motacilla :*	22, 24.	*Parus.*
6, 30.	*Emberiza :*	14, 29.	*Loxia.*

Birds that sing as they fly are but few.

Skylark,	*Alauda vulgaris :*	Rising, suspended, and falling.

	RAII NOMINA.	
Titlark,	*Alauda pratorum:*	In it's descent; also sitting on trees, and walking on the ground.
Woodlark,	*Alauda arborea:*	Suspended; in hot summer nights all night long.
Blackbird,	*Merula:*	Sometimes from bush to bush.
White-throat,	*Ficidulæ affinis:*	Uses when singing on the wing odd jerks and gesticulations.
Swallow,	*Hirundo domestica:*	In soft sunny weather.
Wren,	*Passer troglodytes:*	Sometimes from bush to bush.

Birds that breed most early in these parts.

Raven,	*Corvus:*	Hatches in *February* and *March.*
Song-thrush,	*Turdus:*	In *March.*
Blackbird,	*Merula:*	In *March.*
Rook,	*Cornix frugilega:*	Builds the beginning of *March.*
Woodlark,	*Alauda arborea:*	Hatches in *April.*
Ring-dove,	*Palumbus torquatus:*	Lays the beginning of April.

All birds that continue in full song till after *Midsummer* appear to me to breed more than once.

Most kinds of birds seem to me to be wild and shy somewhat in proportion to their bulk; I mean in this island, where they are much pursued and annoyed: but in *Ascension Island*, and many other desolate places, mariners have found fowls so unacquainted with an human figure, that they would stand still to be taken; as is the case with boobies, &c. As an example of what is advanced, I remark that the *golden-crested wren* (the smallest *British* bird) will stand unconcerned till you come within three or four yards of it, while the *bustard (otis)*, the largest *British* land fowl, does not care to admit a person within so many furlongs.

I am, &c.

LETTER III.

TO THE SAME.

Selborne, Jan. 15, 1770.

Dear Sir,

It was no small matter of satisfaction to me to find that you were not displeased with my little *methodus* of birds. If there was any merit in the sketch, it must be owing to it's punctuality. For many months I carried a list in my pocket of the birds that were to be remarked, and, as I rode or walked about my business, I noted each day the continuance or omission of each bird's song; so that I am as sure of the certainty of my facts as a man can be of any transaction whatsoever.

I shall now proceed to answer the several queries which you put in your two obliging letters, in the best manner that I am able. Perhaps *Eastwick*, and it's environs, where you heard so very few birds, is not a woodland country, and therefore not stocked with such songsters. If you will cast your eye on my last letter, you will find that many species continued to warble after the beginning of *July*.

The titlark and yellowhammer breed late, the latter very late; and therefore it is no wonder that they protract their song: for I lay it down as a maxim in ornithology, that as long as there is any incubation going on there is music. As to the redbreast and wren, it is well known to the most incurious observer that they whistle the year round, hard frost excepted; especially the latter.

It was not in my power to procure you a black-cap, or a less reed-sparrow, or sedge-bird, alive. As the first is undoubtedly, and the last, as far as I can yet see, a summer bird of passage, they would require more nice and curious management in a cage than I should be able to give them: they are both distinguished songsters. The note of the former has

such a wild sweetness that it always brings to my mind those lines in a song in "*As You Like It.*"

> "And tune his merry note
> "Unto the *wild* bird's throat." SHAKESPEARE.

The latter has a surprising variety of notes resembling the song of several other birds; but then it also has an hurrying manner, not at all to it's advantage: it is notwithstanding a delicate polyglot.

It is new to me that titlarks in cages sing in the night; perhaps only caged birds do so. I once knew a tame redbreast in a cage that always sang as long as candles were in the room; but in their wild state no one supposes they sing in the night.

I should be almost ready to doubt the fact, that there are to be seen much fewer birds in *July* than in any former month, notwithstanding so many young are hatched daily. Sure I am that it is far otherwise with respect to the *swallow tribe*, which increases prodigiously as the summer advances: and I saw, at the time mentioned, many hundreds of young wagtails on the banks of the *Cherwell*, which almost covered the meadows. If the matter appears as you say in the other species, may it not be owing to the dams being engaged in incubation, while the young are concealed by the leaves?

Many times have I had the curiosity to open the stomachs of *woodcocks* and *snipes;* but nothing ever occurred that helped to explain to me what their subsistence might be: all that I could ever find was a soft mucus, among which lay many pellucid small gravels.

I am, &c.

LETTER IV.

TO THE SAME.

Selborne, Feb. 19, 1770.

Dear Sir,

Your observation that "the *cuckoo* does not deposit it's egg "indiscriminately in the nest of the first bird that comes in it's "way, but probably looks out a nurse in some degree con- "generous, with whom to intrust it's young," is perfectly new to me; and struck me so forcibly, that I naturally fell into a train of thought that led me to consider whether the fact was so, and what reason there was for it. When I came to recollect and inquire, I could not find that any cuckco had ever been seen in these parts, except in the nest of the *wagtail*, the *hedge-sparrow*, the *titlark*, the *white-throat*, and the *red-breast*, all soft-billed insectivorous birds. The excellent Mr. *Willughby* mentions the nests of the *palumbus (ring-dove)*, and of the *fringilla (chaffinch,)* birds that subsist on acorns and grains, and such hard food: but then he does not mention them as of his own knowledge; but says afterwards that he saw himself a *wagtail* feeding a cuckoo. It appears hardly possible that a soft-billed bird should subsist on the same food with the hard-billed: for the former have thin membranaceous stomachs suited to their soft food; while the latter, the granivorous tribe, have strong muscular gizzards, which, like mills, grind, by the help of small gravels and pebbles, what is swallowed. This proceeding of the cuckoo, of dropping it's eggs as it were by chance, is such a monstrous outrage on maternal affection, one of the first great dictates of nature; and such a violence on instinct; that, had it only been related of a bird in the *Brazils*, or *Peru*, it would never have merited our belief. But yet, should it farther appear that this simple bird, when divested of that natural στοργὴ that seems to raise the kind in general above themselves, and inspire them with extraordinary degrees

of cunning and address, may be still endued with a more enlarged faculty of discerning what species are suitable and congenerous nursing-mothers for it's disregarded eggs and young, and may deposit them only under *their* care, this would be adding wonder to wonder, and instancing in a fresh manner, that the methods of Providence are not subjected to any mode or rule, but astonish us in new lights, and in various and changeable appearances.

What was said by a very ancient and sublime writer concerning the defect of natural affection in the ostrich, may be well applied to the bird we are talking of :

"*She is hardened against her young ones, as though they* "*were not her's:*

"*Because God hath deprived her of wisdom, neither hath he* "*imparted to her understanding.*"[s]

Query. Does each female cuckoo lay but one egg in a season, or does she drop several in different nests according as opportunity offers ? *

I am, &c.

[s] Job xxxix. 16, 17.

* [It was some years later than the dates of those letters of Gilbert White which treat of the cuckoo, although before the actual publication of his book, that Dr. Jenner was led, by the request of John Hunter, to undertake those observations on the habits of this bird which form the subject of an elaborate and interesting paper in the 'Philosophical Transactions' for the year 1788. My attention has been directed by Professor Newton to the fact that "before this date a very good account of the cuckoo had been given by Salerne, in his 'l'Ornithologie,' published in Paris in 1767 (pp. 38–44), an account unfortunately much overlooked until of late years, and containing the very curious statement, on the authority of a fellow-countryman, that the cuckoo's egg always resembles in colour that of the bird in whose nest it is laid. The assertion that this is always the case is, of course, erroneous; but that it very frequently happens has been shown by Dr. Baldamus (Naumannia, 183, pp. 307–326), who figured no fewer than sixteen specimens which bore a more or less close likeness to those of their foster-mother. Dr. Baldamus's paper was translated in 1868 by Mr. A. C. Smith (Zool. S. S. pp. 1146–1166); but meanwhile Mr. Rowley had brought the matter before the British public ('Ibis' 1865, pp. 178–186), and a very considerable amount of controversy has ensued on the subject, into which it is not now advisable to enter." As regards the general subject of the cuckoo's habits, numerous isolated ob-

LETTER V.

TO THE SAME.

Selborne, April 12, 1770.

DEAR SIR,

I HEARD many birds of several species sing last year after *Midsummer;* enough to prove that the summer solstice is not the period that puts a stop to the music of the woods. The yellowhammer no doubt persists with more steadiness than any other; but the woodlark, the wren, the redbreast, the swallow, the white-throat, the goldfinch, the common linnet, are all undoubted instances of the truth of what I advanced.

If this severe season does not interrupt the regularity of the summer migrations, the blackcap will be here in two or three days. I wish it was in my power to procure you one of those songsters; but I am no birdcatcher; and so little used to birds in a cage, that I fear if I had one it would soon die for want of skill in feeding.

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servations have been published in various ornithological works, and especially in the different natural-history periodicals. The number of species in the nests of which cuckoos' eggs have been found was given by Mr. Rowley (*ut supra*) and the editor of the 'Ibis' as more than 50, to which Dr. Rey (Journ. für Ornith. 1871, pp. 225-228) has added some others; and the list is so indiscriminate as to show that there is no determinate choice as to the class of birds to which the cuckoo confides the care of her offspring, and that, although the insectivorous group may be preferred, they are by no means exclusively selected. In consequence of a certain amount of resemblance between the young cuckoo and the young sparrow-hawk, some curious mistakes have arisen. The following letter I received from a friend of mine, who, I need not say, was no ornithologist:—"For some days last week a sparrow-hawk came frequently and settled on the lawn, and, to my surprise, was fed by a water-wagtail as often as it made its appearance. Come when it would, the water-wagtail was sure to be there, and after running about and collecting food, made its way as fast as its little legs could carry it to the hawk and delivered the food, which was taken exactly as young birds take their food from their parents, with stretched-out head and ruffled feathers." For "sparrow-hawk" read "young cuckoo," and we have the true solution of the fact.—T. B.]

Was your reed-sparrow, which you kept in a cage, the thick-billed reed-sparrow of the Zoology, p. 320 ; or was it the less reed-sparrow of *Ray*, the *sedge-bird* of Mr. *Pennant's* last publication, p. 16 ?

As to the matter of long-billed birds growing fatter in moderate frosts, I have no doubt within myself what should be the reason. The thriving at those times appears to me to arise altogether from the gentle check which the cold throws upon insensible perspiration. The case is just the same with blackbirds, &c. ; and farmers and warreners observe, the first, that their hogs fat more kindly at such times, and the latter that their rabbits are never in such good case as in a gentle frost. But when frosts are severe, and of long continuance, the case is soon altered ; for then a want of food soon overbalances the repletion occasioned by a checked perspiration. I have observed, moreover, that some human constitutions are more inclined to plumpness in winter then in summer.

When birds come to suffer by severe frost, I find that the first that fail and die are the redwing-fieldfares, and then the song-thrushes.

You wonder, with good reason, that the hedge-sparrows, &c. can be induced to sit at all on the egg of the cuckoo without being scandalized at the vast disproportioned size of the supposititious egg ; but the brute creation, I suppose, have very little idea of size, colour, or number. For the common hen, I know, when the fury of incubation is on her, will sit on a single shapeless stone instead of a nest full of eggs that have been withdrawn : and, moreover, a hen-turkey, in the same circumstances, would sit on in the empty nest till she perished with hunger.

I think the matter might easily be determined whether a cuckoo lays one or two eggs, or more, in a season, by opening a female during the laying-time. If more than one was come down out of the ovary, and advanced to a good size, doubtless then she would that spring lay more than one *.

* [In Mr. Bennett's edition is a note by Professor Owen on this subject, which leaves the question, to a certain extent, undetermined as regards its anatomical phase; for, although but one egg was found in the oviduct,

I will endeavour to get a hen, and to examine.

Your supposition that there may be some natural obstruction in singing birds while they are mute, and that when this is removed the song recommences is new and bold; I wish you could discover some good grounds for this suspicion.

I was glad you were pleased with my specimen of the *caprimulgus*, or fern-owl; you were, I find, acquainted with the bird before.

When we meet, I shall be glad to have some conversation with you concerning the proposal you make of my drawing up an account of the animals in this neighbourhood. Your partiality towards my small abilities persuades you, I fear, that I am able to do more than is in my power: for it is no small undertaking for a man unsupported and alone to begin a natural history from his own autopsia! Though there is endless room for observation in the field of nature, which is boundless, yet investigation (where a man endeavours to be sure of his facts) can make but slow progress; and all that one could collect in many years would go into a very narrow compass.

Some extracts from your ingenious "Investigations of the difference between the present temperature of the air in Italy," &c. have fallen in my way; and gave me great satisfaction: they have removed the objections that always arose in my mind whenever I came to the passages which you quote. Surely the judicious *Virgil*, when writing a didactic poem for the region of *Italy*, could never think of describing freezing rivers, unless such severity of weather pretty frequently occurred!

P.S. Swallows appear amidst snows and frost.

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and this in the calcifying segment, and "the rest of the oviduct was disposed in close transverse folds and not exceeding two lines in diameter," yet "the ovary, besides a cluster of small ova, contained one ovum about half an inch in diameter, and no doubt ready to pass into the oviduct when disburthened of the egg which it was then perfecting." Mr. Yarrell does not offer any fact to prove the plurality of eggs laid by the cuckoo, but appears to take it for granted, as also does Montagu; and there are so many interesting facts recorded in the 'Zoologist' and other publications as to place the matter beyond all doubt.—T. B.]

LETTER VI.

TO THE SAME.

Selborne, May 21, 1770.

DEAR SIR,

THE severity and turbulence of last month so interrupted the regular progress of summer migration, that some of the birds do but just begin to shew themselves, and others are apparently thinner than usual; as the white-throat, the black-cap, the red-start, the fly-catcher. I well remember that after the very severe spring in the year 1739–40 summer birds of passage were very scarce. They come probably hither with a south-east wind, or when it blows between those points; but in that unfavourable year the winds blowed the whole spring and summer through from the opposite quarters. And yet amidst all these disadvantages two swallows, as I mentioned in my last, appeared this year as early as the eleventh of *April* amidst frost and snow; but they withdrew again for a time.

I am not pleased to find that some people seem so little satisfied with *Scopoli's* new publication;[t] there is room to expect great things from the hands of that man, who is a good naturalist: and one would think that an history of the birds of so distant and southern a region as *Carniola* would be new and interesting. I could wish to see that work, and hope to get it sent down. Dr. *Scopoli* is physician to the wretches that work in the quicksilver mines of that district.

When you talked of keeping a reed-sparrow, and giving it seeds, I could not help wondering; because the reed-sparrow which I mentioned to you *(passer arundinaceus minor Raii)* is a soft-billed bird; and most probably migrates hence before winter; whereas the bird you kept *(passer torquatus Raii)* abides all the year, and is a thick-billed bird. I question

[t] This work he calls his *Annus Primus Historico Naturalis.*

whether the latter be much of a songster; but in this matter I want to be better informed. The former has a variety of hurrying notes, and sings all night. Some part of the song of the former, I suspect, is attributed to the latter. We have plenty of the soft-billed sort; which Mr. *Pennant* had entirely left out of his *British Zoology*, till I reminded him of his omission. See *British Zoology* last published, p. 16.[x]

I have somewhat to advance on the different manners in which different birds fly and walk; but as this is a subject that I have not enough considered, and is of such a nature as not to be contained in a small space, I shall say nothing farther about it at present.[y]

No doubt the reason why the sex of birds in their first plumage is so difficult to be distinguished is, as you say, "because they are not to pair and discharge their parental "functions till the ensuing spring." As colours seem to be the chief external sexual distinction in many birds, these colours do not take place till sexual attachments begin to obtain. And the case is the same in quadrupeds; among whom, in their younger days, the sexes differ but little: but, as they advance to maturity, horns and shaggy manes, beards and brawny necks, &c. &c. strongly discriminate the male from the female. We may instance still farther in our own species, where a beard and stronger features are usually characteristic of the male sex: but this sexual diversity does not take place in earlier life; for a beautiful youth shall be so like a beautiful girl that the difference shall not be discernible;

"Quem si puellarum insereres choro,
"Mirè sagaces falleret hospites
"Discrimen obscurum, solutis
"Crinibus, ambiguoque vultu." HOR.

[x] See letter xxv. to Mr. *Pennant*. [y] See letter xlii. to Mr. *Barrington*.

LETTER VII.

TO THE SAME.

Ringmer, near Lewes, Oct. 8, 1770.

DEAR SIR,

I AM glad to hear that *Kuckalm* is to furnish you with the birds of *Jamaica;* a sight of the *hirundines* of that hot and distant island would be a great entertainment to me*.

The *Anni of Scopoli* are now in my possession; and I have read the *Annus Primus* with satisfaction: for though some parts of this work are exceptionable, and he may advance some mistaken observations; yet the ornithology of so distant a country as *Carniola* is very curious. Men that undertake only one district are much more likely to advance natural knowledge than those that grasp at more than they can possibly be acquainted with: every kingdom, every province, should have it's own *monographer.*

The reason perhaps why he mentions nothing of *Ray's* Ornithology may be the extreme poverty and distance of his country, into which the works of our great naturalist may have never yet found their way. You have doubts, I know, whether this Ornithology is genuine, and really the work of *Scopoli:* as to myself, I think I discover strong tokens of authenticity; the style corresponds with that of his *Entomology;* and his characters of his Ordines and Genera are many of them new, expressive, and masterly. He has ventured to alter some of the *Linnæan* genera with sufficient shew of reason.

It might perhaps be mere accident that you saw so many swifts and no swallows at *Staines;* because, in my long obser-

* [The ornithology of this ancient colony remained scarcely better known than it was in White's time, until in 1847 Mr. Gosse published his excellent and interesting 'Birds of Jamaica;' since which time no new facts of any importance have been added.—T. B.]

vation of those birds, I never could discover the least degree of rivalry or hostility between the species.

Ray remarks that birds of the *gallinæ order*, as cocks and hens, partridges, and pheasants, &c. are *pulveratrices*, such as dust themselves, using that method of cleansing their feathers, and ridding themselves of their vermin. As far as I can observe, many birds that dust themselves never wash: and I once thought that those birds that wash themselves would never dust; but here I find myself mistaken; for common house-sparrows are great *pulveratrices*, being frequently seen grovelling and wallowing in dusty roads; and yet they are great washers. Does not the skylark dust?

Query. Might not *Mahomet* and his followers take one method of purification from these *pulveratrices?* because I find from travellers of credit, that if a strict mussulman is journeying in a sandy desert where no water is to be found, at stated hours he strips off his clothes, and most scrupulously rubs his body over with sand or dust.

A countryman told me he had found a young *fern-owl* in the nest of a small bird on the ground; and that it was fed by the little bird. I went to see this extraordinary phenomenon, and found that it was a young cuckoo hatched in the nest of a titlark: it was become vastly too big for it's nest, appearing

> ——————in tenui re
> Majores pennas nido extendisse—

and was very fierce and pugnacious, pursuing my finger, as I teazed it, for many feet from the nest, and sparring and buffetting with it's wings like a game-cock. The dupe of a dam appeared at a distance, hovering about with meat in it's mouth, and expressing the greatest solicitude.

In *July* I saw several cuckoos skimming over a large pond; and found, after some observation, that they were feeding on the *libellulæ*, or *dragon-flies;* some of which they caught as they settled on the weeds, and some as they were on the wing. Notwithstanding what *Linnæus* says, I cannot be induced to believe that they are birds of prey.

This district affords some birds that are hardly ever heard

of at *Selbŏrne*. In the first place considerable flocks of *cross-beaks* * *(loxiæ curvirostræ)* have appeared this summer in the pine-groves belonging to this house; the *water-ousel* is said to haunt the mouth of the *Lewes* river, near *Newhaven;* and the *Cornish chough* builds, I know, all along the chalky cliffs of the *Sussex* shore.

I was greatly pleased to see little parties of *ring-ousels* (my newly discovered migraters) scattered, at intervals, all along the *Sussex* downs from *Chichester* to *Lewes*. Let them come from whence they will, it looks very suspicious that they are cantoned along the coast in order to pass the channel when severe weather advances. They visit us again in *April*, as it should seem, in their return; and are not to be found in the dead of winter. It is remarkable that they are very tame, and seem to have no manner of apprehensions of danger from a person with a gun. There are bustards on the wide downs near *Brighthelmstone*. No doubt you are acquainted with the *Sussex* downs: the prospects and rides round *Lewes* are most lovely!

As I rode along near the coast I kept a very sharp look out in the lanes and woods, hoping I might, at this time of the year, have discovered some of the summer short-winged birds of passage crowding towards the coast in order for their departure: but it was very extraordinary that I never saw a redstart, white-throat, black-cap, uncrested wren, fly-catcher, &c. And I remember to have made the same remark in former years, as I usually come to this place annually about this time. The birds most common along the coast at present are the stone-chatters, whinchats, buntings, linnets, some few wheat-ears, titlarks, &c. Swallows and house-martins abound yet, induced to prolong their stay by this soft, still, dry season.

A land tortoise, which has been kept for thirty years in a

* [It must be observed that both this letter and the seventeenth to Barrington, in which mention is made of "flights of cross-bills," are dated from Ringmer in Sussex; Yarrell is therefore in error ('British Birds,' ii. p. 14) when he attributes the occurrence to Selborne. See note, p. 32.—T. B.]

little walled court belonging to the house where I now am visiting, retires under ground about the middle of *November*, and comes forth again about the middle of *April*. When it first appears in the spring it discovers very little inclination towards food; but in the height of summer grows voracious: and then as the summer declines it's appetite declines; so that for the last six weeks in autumn it hardly eats at all. Milky plants, such as lettuces, dandelions, sowthistles, are it's favourite dish. In a neighbouring village one was kept till by tradition it was supposed to be an hundred years old. An instance of vast longevity in such a poor reptile!

LETTER VIII.

TO THE SAME.

Selborne, Dec. 20, 1770.

Dear Sir,

The birds that I took for *aberdavines* were reed-sparrows *(passeres torquati.)*

There are doubtless many home internal migrations within this kingdom that want to be better understood: witness those vast flocks of hen chaffinches that appear with us in the winter without hardly any cocks among them. Now was there a due proportion of each sex, it should seem very improbable that any one district should produce such numbers of these little birds; and much more when only one half of the species appears: therefore we may conclude that the *fringillæ cælebes*, for some good purposes, have a peculiar migration of their own in which the sexes part. Nor should it seem so wonderful that the intercourse of sexes in this species of birds should be interrupted in winter; since in many animals, and particularly in bucks and does, the sexes herd separately, except at the season when commerce is necessary for the continuance of the breed. For this matter of the chaffinches see *Fauna Suecica*, p. 85, and *Systema Naturæ*, p. 318. I see every winter vast flights of hen chaffinches, but none of cocks.

Your method of accounting for the periodical motions of the *British* singing birds, or birds of flight, is a very probable one; since the matter of food is a great regulator of the actions and proceedings of the brute creation: there is but one that can be set in competition with it, and that is love. But I cannot quite acquiesce with you in one circumstance when you advance that, "when they have thus feasted, they "again separate into small parties of five or six, and get the "best fare they can within a certain district, having no "inducement to go in quest of fresh-turned earth." Now if you mean that the business of congregating is quite at an end from the conclusion of wheat-sowing to the season of barley and oats, it is not the case with us; for larks and chaffinches, and particularly linnets, flock and congregate as much in the very dead of winter as when the husbandman is busy with his ploughs and harrows.

Sure there can be no doubt but that woodcocks and fieldfares leave us in the spring, in order to cross the seas, and to retire to some districts more suitable to the purpose of breeding. That the former pair before they retire, and that the hens are forward with egg, I myself, when I was a sportsman, have often experienced. It cannot indeed be denied but that now and then we hear of a woodcock's nest, or young birds, discovered in some part or other of this island: but then they are always mentioned as rarities, and somewhat out of the common course of things: but as to redwings and fieldfares, no sportsman or naturalist has ever yet, that I could hear, pretended to have found the nest or young of those species in any part of these kingdoms. And I the more admire at this instance as extraordinary, since, to all appearance, the same food in summer as well as in winter might support them here which maintains their congeners, the blackbirds and thrushes, did they chuse to stay the summer through. From hence it appears that it is not food alone which determines some species of birds with regard to their stay or departure. Fieldfares and redwings disappear sooner or later according as the warm weather comes on earlier or later. For I well remember, after that dreadful winter of 1739-40,

that cold north-east winds continued to blow on through *April* and *May*, and that these kinds of birds (what few remained of them) did not depart as usual, but were seen lingering about till the beginning of *June*.

The best authority that we can have for the nidification of the birds above-mentioned in any district, is the testimony of faunists that have written professedly the natural history of particular countries. Now, as to the fieldfare, *Linnæus*, in his Fauna Suecica, says of it that "*maximis in arboribus nidificat:*" and of the redwing he says, in the same place, that "*nidificat* "*in mediis arbusculis, sive sepibus: ova sex cæruleo-viridia* "*maculis nigris variis.*" Hence we may be assured that fieldfares and redwings breed in *Sweden*. *Scopoli* says, in his *Annus Primus*, of the woodcock, that "*nupta ad nos venit* "*circa æquinoctium vernale:*" meaning in *Tirol*, of which he is a native. And afterwards he adds "*nidificat in paludibus* "*alpinis: ova ponit* 3 - - - 5." It does not appear from *Kramer* that woodcocks breed at all in *Austria:* but he says "*Avis hæc septentrionalium provinciarum æstivo tempore incola* "*est; ubi plerumque nidificat. Appropinquante hyeme austra-* "*liores provincias petit: hinc circa plenilunium mensis Octobris* "*plerumque Austriam transmigrat. Tunc rursus circa pleni-* "*lunium potissimum mensis Martii per Austriam matrimonio* "*juncta ad septentrionales provincias redit.*" For the whole passage (which I have abridged) see *Elenchus*, &c. p. 351. This seems to be a full proof of the migration of woodcocks; though little is proved concerning the place of breeding.

P. S. There fell in the county of *Rutland*, in three weeks of this present very wet weather, seven inches and an half of rain, which is more than has fallen in any three weeks for these thirty years past in that part of the world. A mean quantity in that county for one year is twenty inches and an half.

LETTER IX.

TO THE SAME.

Fyfield, near Andover, Feb. 12, 1771.

DEAR SIR,

YOU are, I know, no great friend to migration; and the well attested accounts from various parts of the kingdom seem to justify you in your suspicions, that at least many of the swallow kind do not leave us in the winter, but lay themselves up like insects and bats, in a torpid state, to slumber away the more uncomfortable months till the return of the sun and fine weather awakens them.

But then we must not, I think, deny migration in general; because migration certainly does subsist in some places, as my brother in *Andalusia* has fully informed me. Of the motions of these birds he has ocular demonstration, for many weeks together, both spring and fall: during which periods myriads of the swallow kind traverse the Straits from north to south, and from south to north, according to the season. And these vast migrations consist not only of *hirundines* but of *bee-birds, hoopoes, oro pendolos, or golden thrushes,* &c. &c. and also many of our *soft-billed summer-birds of passage;* and moreover of birds which never leave us, such as all the various sorts of hawks and kites. Old *Belon,* two hundred years ago, gives a curious account of the incredible armies of hawks and kites which he saw in the spring-time traversing the *Thracian Bosphorus* from *Asia* to *Europe.* Besides the above mentioned, he remarks that the procession is swelled by whole troops of eagles and vultures.

Now it is no wonder that birds residing in *Africa* should retreat before the sun as it advances, and retire to milder regions, and especially birds of prey, whose blood being heated with hot animal food, are more impatient of a sultry climate: but then I cannot help wondering why kites and hawks, and

such hardy birds as are known to defy all the severity of *England*, and even of *Sweden* and all north *Europe*, should want to migrate from the south of *Europe*, and be dissatisfied with the winters of *Andalusia*.

It does not appear to me that much stress may be laid on the difficulty and hazard that birds must run in their migrations, by reason of vast oceans, cross winds, &c.; because, if we reflect, a bird may travel from *England* to the equator without launching out and exposing itself to boundless seas, and that by crossing the water at *Dover*, and again at *Gibraltar*. And I with the more confidence advance this obvious remark, because my brother has always found that some of his birds, and particularly the swallow kind, are very sparing of their pains in crossing the *Mediterranean:* for when arrived at *Gibraltar*, they do not

— — — "Rang'd in figure wedge their way,
— — — — — "And set forth
"Their airy caravan high over seas
"Flying, and over lands with mutual wing
"Easing their flight:" — — — — MILTON.

but scout and hurry along in little detached parties of six or seven in a company; and sweeping low, just over the surface of the land and water, direct their course to the opposite continent at the narrowest passage they can find. They usually slope across the bay to the south-west, and so pass over opposite to *Tangier*, which, it seems, is the narrowest space.

In former letters we have considered whether it was probable that woodcocks in moon-shiny nights cross the *German* ocean from *Scandinavia*. As a proof that birds of less speed may pass that sea, considerable as it is, I shall relate the following incident, which, though mentioned to have happened so many years ago, was strictly matter of fact:—As some people were shooting in the parish of *Trotton*, in the county of *Sussex*, they killed a duck in that dreadful winter 1708-9, with a silver collar about it's neck,[z] on which were engraven the arms of the king of *Denmark*. This anecdote the rector

[z] I have read a like anecdote of a swan.

of *Trotton* at that time has often told to a near relation of mine; and, to the best of my remembrance, the collar was in the possession of the rector.

At present I do not know any body near the sea-side that will take the trouble to remark at what time of the moon woodcocks first come: if I lived near the sea myself I would soon tell you more of the matter. One thing I used to observe when I was a sportsman, that there were times in which woodcocks were so sluggish and sleepy that they would drop again when flushed just before the spaniels, nay just at the muzzle of a gun that had been fired at them: whether this strange laziness was the effect of a recent fatiguing journey I shall not presume to say.

Nightingales not only never reach *Northumberland* and *Scotland*, but also, as I have been always told, *Devonshire* and *Cornwall*. In those two last counties we cannot attribute the failure of them to the want of warmth: the defect in the west is rather a presumptive argument that these birds come over to us from the continent at the narrowest passage, and do not stroll so far westward.

Let me hear from your own observation whether skylarks do not dust. I think they do: and if they do, whether they wash also.

The *alauda pratensis* of *Ray* was the poor dupe that was educating the booby of a cuckoo mentioned in my letter of *October* last.

Your letter came too late for me to procure a ring-ousel for Mr. *Tunstal* during their autumnal visit; but I will endeavour to get him one when they call on us again in *April*. I am glad that you and that gentleman saw my *Andalusian* birds; I hope they answered your expectation. *Royston*, or grey crows, are winter birds that come much about the same time with the woodcock: they, like the fieldfare and redwing, have no apparent reason for migration; for as they fare in the winter like their congeners, so might they in all appearance in the summer. Was not *Tenant*, when a boy, mistaken? did he not find a missel-thrush's nest, and take it for the nest of a fieldfare?

The stock-dove, or wood-pigeon, *œnas Raii*, is the last winter bird of passage which appears with us; and is not seen till towards the end of *November:* about twenty years ago they abounded in the district of *Selborne;* and strings of them were seen morning and evening that reached a mile or more: but since the beechen woods have been greatly thinned they are much decreased in number. The ring-dove, *palumbus Raii*, stays with us the whole year, and breeds several times through the summer.

Before I received your letter of *October* last I had just remarked in my journal that the trees were unusually green. This uncommon verdure lasted on late into *November;* and may be accounted for from a late spring, a cool and moist summer; but more particularly from vast armies of chafers, or tree beetles, which, in many places, reduced whole woods to a leafless naked state. These trees shot again at *Midsummer*, and then retained their foliage till very late in the year.

My musical friend, at whose house I am now visiting, has tried all the owls that are his near neighbours with a pitch-pipe set at concert-pitch, and finds they all hoot in B flat. He will examine the nightingales next spring.

I am, &c. &c.

LETTER X.

TO THE SAME.

Selborne, Aug. 1, 1771.

Dear Sir,

From what follows, it will appear that neither owls nor cuckoos keep to one note. A friend remarks that many (most) of his owls hoot in B flat: but that one went almost half a note below A. The pipe he tried their notes by was a common half-crown pitch-pipe, such as masters use for tuning of harpsichords; it was the common *London* pitch.

A neighbour of mine, who is said to have a nice ear, remarks that the owls about this village hoot in three different

keys, in G flat, or F sharp, in B flat and A flat. He heard two hooting to each other, the one in A flat, and the other in B flat. *Query:* Do these different notes proceed from different species, or only from various individuals? The same person finds upon trial that the note of the cuckoo (of which we have but one species) varies in different individuals; for, about *Selborne* wood, he found they were mostly in D: he heard two sing together, the one in D, the other in D sharp, who made a disagreeable concert: he afterwards heard one in D sharp, and about *Wolmer-forest* some in C. As to nightingales, he says that their notes are so short, and their transitions so rapid, that he cannot well ascertain their key. Perhaps in a cage, and in a room, their notes may be more distinguishable. This person has tried to settle the notes of a swift, and of several other small birds, but cannot bring them to any criterion.

As I have often remarked that redwings are some of the first birds that suffer with us in severe weather, it is no wonder at all that they retreat from *Scandinavian* winters: and much more the *ordo* of *grallæ*, who, all to a bird, forsake the northern parts of *Europe* at the approach of winter. "*Grallæ tanquam conjuratæ unanimiter in fugam se conjiciunt;* "*ne earum unicam quidem inter nos habitantem invenire possi-* "*mus; ut enim æstate in australibus degere nequeunt ob defec-* "*tum lumbricorum, terramque siccam; ita nec in frigidis ob* "*eandem causam,*" says *Eckmarck* the *Swede*, in his ingenious little treatise called *Migrationes Avium*, which by all means you ought to read while your thoughts run on the subject of migration. See *Amœnitates Academicæ*, vol. 4, p. 565.

Birds may be so circumstanced as to be obliged to migrate in one country and not in another: but the *grallæ*, (which procure their food from marshes and boggy grounds) must in winter forsake the more northerly parts of *Europe*, or perish for want of food.

I am glad you are making inquiries from *Linnæus* concerning the woodcock: it is expected of him that he should be able to account for the motions and manner of life of the animals of his own *Fauna*.

Faunists, as you observe, are too apt to acquiesce in bare descriptions, and a few synonyms: the reason is plain; because all that may be done at home in a man's study, but the investigation of the life and conversation of animals, is a concern of much more trouble and difficulty, and is not to be attained but by the active and inquisitive, and by those that reside much in the country.

Foreign systematics are, I observe, much too vague in their specific differences; which are almost universally constituted by one or two particular marks, the rest of the description running in general terms. But our countryman, the excellent Mr. *Ray*, is the only describer that conveys some precise idea in every term or word, maintaining his superiority over his followers and imitators in spite of the advantage of fresh discoveries and modern information.

At this distance of years * it is not in my power to recollect at what periods woodcocks used to be sluggish or alert when I was a sportsman: but, upon my mentioning this circumstance to a friend, he thinks he has observed them to be remarkably listless against snowy foul weather: if this should be the case, then the inaptitude for flying arises only from an eagerness for food; as sheep are observed to be very intent on grazing against stormy wet evenings.

I am, &c. &c.

LETTER XI.

TO THE SAME.

Selborne, Feb. 8, 1772.

Dear Sir,

When I ride about in the winter, and see such prodigious flocks of various kinds of birds, I cannot help admiring at

* [This remark shows that White gave up shooting rather early in life. He was at this time only 51.—T. B.]

these congregations, and wishing that it was in my power to account for those appearances almost peculiar to the season. The two great motives which regulate the proceedings of the brute creation are love and hunger; the former incites animals to perpetuate their kind, the latter induces them to preserve individuals; whether either of these should seem to be the ruling passion in the matter of congregating is to be considered. As to love, that is out of the question at a time of the year when that soft passion is not indulged; besides, during the amorous season, such a jealousy prevails between the male birds that they can hardly bear to be together in the same hedge or field. Most of the singing and elation of spirits of that time seem to me to be the effect of rivalry and emulation: and it is to this spirit of jealousy that I chiefly attribute the equal dispersion of birds in the spring over the face of the country.

Now as to the business of food: as these animals are actuated by instinct to hunt for necessary food, they should not, one would suppose, crowd together in pursuit of sustenance at a time when it is most likely to fail; yet such associations do take place in hard weather chiefly, and thicken as the severity increases. As some kind of self-interest and self-defence is no doubt the motive for the proceeding, may it not arise from the helplessness of their state in such rigorous seasons; as men crowd together, when under great calamities, though they know not why? Perhaps approximation may dispel some degree of cold; and a crowd may make each individual appear safer from the ravages of birds of prey and other dangers.

If I admire when I see how much congenerous birds love to congregate, I am the more struck when I see incongruous ones in such strict amity. If we do not much wonder to see a flock of rooks usually attended by a train of daws, yet it is strange that the former should so frequently have a flight of starlings for their satellites. Is it because rooks have a more discerning scent than their attendants, and can lead them to spots more productive of food? Anatomists say that rooks, by reason of two large nerves which run down between the

eyes into the upper mandible, have a more delicate feeling in their beaks than other round-billed birds, and can grope for their meat when out of sight. Perhaps then their associates attend them on the motive of interest, as greyhounds wait on the motions of their finders; and as lions are said to do on the yelpings of jackals. Lapwings and starlings sometimes associate.

LETTER XII.

TO THE SAME.

March 9, 1772.

Dear Sir,

As a gentleman and myself were walking on the fourth of last *November* round the sea-banks at *Newhaven*, near the mouth of the *Lewes* river, in pursuit of natural knowledge, we were surprised to see three house-swallows gliding very swiftly by us. That morning was rather chilly, with the wind at north-west; but the tenor of the weather for some time before had been delicate, and the noons remarkably warm. From this incident, and from repeated accounts which I meet with, I am more and more induced to believe that many of the swallow kind do not depart from this island; but lay themselves up in holes and caverns; and do, insect-like and bat-like, come forth at mild times, and then retire again to their *latebræ*. Nor make I the least doubt but that, if I lived at *Newhaven*, *Seaford*, *Brighthelmstone*, or any of those towns near the chalk-cliffs of the *Sussex* coast, by proper observations, I should see swallows stirring at periods of the winter, when the noons were soft and inviting, and the sun warm and invigorating. And I am the more of this opinion from what I have remarked during some of our late springs, that though some swallows did make their appearance about the usual time, *viz.* the thirteenth or fourteenth of *April*, yet meeting with an harsh reception, and blustering

cold north-east winds, they immediately withdrew, absconding for several days, till the weather gave them better encouragement.

LETTER XIII.

TO THE SAME.

April 12, 1772.

Dear Sir,

While I was in *Sussex* last autumn my residence was at the village near *Lewes*, from whence I had formerly the pleasure of writing to you. On the first of *November* I remarked that the old tortoise, formerly mentioned, began first to dig the ground in order to the forming it's hybernaculum, which it had fixed on just beside a great tuft of hepaticas. It scrapes out the ground with it's fore-feet, and throws it up over it's back with it's hind; but the motion of it's legs is ridiculously slow, little exceeding the hour-hand of a clock; and suitable to the composure of an animal said to be a whole month in performing one feat of copulation. Nothing can be more assiduous than this creature night and day in scooping the earth, and forcing it's great body into the cavity; but, as the noons of that season proved unusually warm and sunny, it was continually interrupted, and called forth by the heat in the middle of the day; and though I continued there till the thirteenth of *November*, yet the work remained unfinished. Harsher weather, and frosty mornings, would have quickened it's operations. No part of it's behaviour ever struck me more than the extreme timidity it always expresses with regard to rain; for though it has a shell that would secure it against the wheel of a loaded cart, yet does it discover as much solicitude about rain as a lady dressed in all her best attire, shuffling away on the first sprinklings, and running it's head up in a corner. If attended to, it becomes an excellent weather-glass; for as sure as it walks elate, and as it were on tiptoe,

feeding with great earnestness in a morning, so sure will it rain before night. It is totally a diurnal animal, and never pretends to stir after it becomes dark. The tortoise, like other reptiles, has an arbitrary stomach as well as lungs; and can refrain from eating as well as breathing for a great part of the year. When first awakened it eats nothing; nor again in the autumn before it retires: through the height of the summer it feeds voraciously, devouring all the food that comes in it's way. I was much taken with it's sagacity in discerning those that do it kind offices; for, as soon as the good old lady comes in sight who has waited on it for more than thirty years, it hobbles towards it's benefactress with aukward alacrity; but remains inattentive to strangers. Thus not only "*the ox knoweth his owner, and the ass his master's* "*crib*,"[b] but the most abject reptile and torpid of beings distinguishes the hand that feeds it, and is touched with the feelings of gratitude!

I am, &c. &c.

P. S. In about three days after I left *Sussex* the tortoise retired into the ground under the hepatica*.

[b] Isaiah i. 3.

* [The absolute torpidity and suspension of all the animal functions during the hibernation of the tortoise was very strikingly exemplified in one which I had kept in a small orchard during the summer. It was a new and remarkably large species from South Africa. Its neck was very long; and it fed entirely upon grass, which it plucked with a sidelong movement like a goose. Immediately before hibernating it ate heartily of grass, and then took up its winter quarters under some hay in the stable, where it remained undisturbed till the spring. On leaving its place of rest it just came forth and died, without ever having any possible access to grass. On opening the stomach however, it was found literally stuffed with the last meal of grass taken so many months before, as green as when eaten, and wholly unchanged. The species was *Testudo pardalis* (Zool. Journ. iii. p. 419, t. xxv. Supp.). Respecting the age to which tortoises attain, Sir William Jardine, in his edition of this work, mentions several instances, from different authorities, of which the ages were from 107 to 229 years.—T. B.]

LETTER XIV.

TO THE SAME.

Selborne, March 26, 1773.

DEAR SIR,

THE more I reflect on the στοργη of animals, the more I am astonished at it's effects. Nor is the violence of this affection more wonderful than the shortness of it's duration. Thus every hen is in her turn the virago of the yard, in proportion to the helplessness of her brood; and will fly in the face of a dog or a sow in defence of those chickens, which in a few weeks she will drive before her with relentless cruelty.

This affection sublimes the passions, quickens the invention, and sharpens the sagacity of the brute creation. Thus an hen, just become a mother, is no longer that placid bird she used to be, but with feathers standing an end, wings hovering, and clocking note, she runs about like one possessed. Dams will throw themselves in the way of the greatest danger in order to avert it from their progeny. Thus a partridge will tumble along before a sportsman in order to draw away the dogs from her helpless covey. In the time of nidification the most feeble birds will assault the most rapacious. All the hirundines of a village are up in arms at the sight of an hawk, whom they will persecute till he leaves that district. A very exact observer* has often remarked that a pair of ravens nesting in the rock of *Gibraltar* would suffer no vulture or eagle to rest near their station, but would drive them from the hill with an amazing fury: even the blue thrush at the season of breeding would dart out from the clefts of the rocks to chase away the kestril, or the sparrow-hawk. If you stand near the nest of a bird that has young, she will not be induced to betray them by an inadvertent fondness, but will wait about at a distance with meat in her mouth for an hour together.

* [His brother John, at that time chaplain at Gibraltar, and engaged in preparing his Natural History of that place.—T. B.]

Should I farther corroborate what I have advanced above by some anecdotes which I probably may have mentioned before in conversation, yet you will, I trust, pardon the repetition for the sake of the illustration.

The flycatcher of the Zoology (the *stoparola* of *Ray*,) builds every year in the vines that grow on the walls of my house. A pair of these little birds had one year inadvertently placed their nest on a naked bough, perhaps in a shady time, not being aware of the inconvenience that followed. But an hot sunny season coming on before the brood was half fledged, the reflection of the wall became insupportable, and must inevitably have destroyed the tender young, had not affection suggested an expedient, and prompted the parent-birds to hover over the nest all the hotter hours, while with wings expanded, and mouths gaping for breath, they screened off the heat from their suffering offspring.

A farther instance I once saw of notable sagacity in a willow-wren, which had built in a bank in my fields. This bird a friend and myself had observed as she sat in her nest; but were particularly careful not to disturb her, though we saw she eyed us with some degree of jealousy. Some days after as we passed that way we were desirous of remarking how this brood went on; but no nest could be found, till I happened to take up a large bundle of long green moss, as it were, carelessly thrown over the nest, in order to dodge the eye of any impertinent intruder.

A still more remarkable mixture of sagacity and instinct occurred to me one day as my people were pulling off the lining of an hotbed, in order to add some fresh dung. From out of the side of this bed leaped an animal with great agility that made a most grotesque figure; nor was it without great difficulty that it could be taken; when it proved to be a large white-bellied field-mouse with three or four young clinging to her teats by their mouths and feet. It was amazing that the desultory and rapid motions of this dam should not oblige her litter to quit their hold, especially when it appeared that they were so young as to be both naked and blind!

To these instances of tender attachment, many more of which might be daily discovered by those that are studious of nature, may be opposed that rage of affection, that monstrous perversion of the στοργη, which induces some females of the brute creation to devour their young because their owners have handled them too freely, or removed them from place to place! Swine, and sometimes the more gentle race of dogs and cats, are guilty of this horrid and preposterous murder. When I hear now and then of an abandoned mother that destroys her offspring, I am not so much amazed; since reason perverted, and the bad passions let loose are capable of any enormity: but why the parental feelings of brutes, that usually flow in one most uniform tenor, should sometimes be so extravagantly diverted, I leave to abler philosophers than myself to determine.

I am, &c.

LETTER XV.

TO THE SAME.

Selborne, July 8, 1773.

Dear Sir,

Some young men went down lately to a pond on the verge of *Wolmer-forest* to hunt flappers, or young wild-ducks, many of which they caught, and, among the rest, some very minute yet well-fledged wild-fowls alive, which upon examination, I found to be teals. I did not know till then that teals ever bred in the south of *England*, and was much pleased with the discovery: this I look upon as a great stroke in natural history.

We have had, ever since I can remember, a pair of white owls that constantly breed under the eaves of this church. As I have paid good attention to the manner of life of these birds during their season of breeding, which lasts the summer through, the following remarks may not perhaps be unacceptable*:—About an hour before sunset (for then the mice begin

* [It is well known in Selborne that owls often have three broods of two each in the course of the summer; and in my notes of the year 1853,

to run) they sally forth in quest of prey, and hunt all round the hedges of meadows and small enclosures for them, which seem to be their only food. In this irregular country we can stand on an eminence and see them beat the fields over like a setting-dog, and often drop down in the grass or corn. I have minuted these birds with my watch for an hour together, and have found that they return to their nests, the one or the other of them, about once in five minutes; reflecting at the same time on the adroitness that every animal is possessed of as regards the well being of itself and offspring. But a piece of address, which they shew when they return loaded, should not, I think, be passed over in silence.—As they take their prey with their claws, so they carry it in their claws to their nest: but, as the feet are necessary in their ascent under the tiles, they constantly perch first on the roof of the chancel, and shift the mouse from their claws to their bill, that the feet may be at liberty to take hold of the plate on the wall as they are rising under the eaves.

White owls seem not (but in this I am not positive) to hoot at all: all that clamorous hooting appears to me to come from the wood kinds*. The white owl does indeed snore and hiss in a tremendous manner; and these menaces well answer the intention of intimidating: for I have known a whole village up in arms on such an occasion, imagining the church-yard to be full of goblins and spectres. White owls also often scream horribly as they fly along; from this screaming probably arose the common people's imaginary species of *screech-owl*, which they superstitiously think attends the windows of dying persons. The plumage of the remiges of the wings of every species of owl that I have yet examined is remarkably soft

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I find that there were six young owls in the nest in the old pollard ash, in a hole in which a pair of this species have bred for many years. I have been assured by more than one of my neighbours that in these cases the first pair assist in nestling the second pair, and these again the third. Mr. Blyth has mentioned this fact; and he is quoted with confirmatory instances by Yarrell, Brit. Birds, i. p. 128, 1st edit.—T. B.]

* [Although hooting is not the usual, nor even a frequent voice of the barn-owl, there are several instances recorded of its occurrence.—T. B.]

and pliant. Perhaps it may be necessary that the wings of these birds should not make much resistance or rushing, that they may be enabled to steal through the air unheard upon a nimble and watchful quarry*.

While I am talking of owls, it may not be improper to mention what I was told by a gentleman of the county of *Wilts*. As they were grubbing a vast hollow pollard-ash that had been the mansion of owls for centuries, he discovered at the bottom a mass of matter that at first he could not account for. After some examination, be found it was a congeries of the bones of mice (and perhaps of birds and bats) that had been heaping together for ages, being cast up in pellets out of the crops of many generations of inhabitants. For owls cast up the bones, fur, and feathers of what they devour, after the manner of hawks. He believes, he told me, that there were bushels of this kind of substance.

When brown owls hoot their throats swell as big as an hen's egg. I have known an owl of this species live a full year without any water. Perhaps the case may be the same with all birds of prey. When owls fly they stretch out their legs behind them as a balance to their large heavy heads: for as most nocturnal birds have large eyes and ears they must have large heads to contain them. Large eyes I presume are necessary to collect every ray of light, and large concave ears to command the smallest degree of sound or noise †.

I am, &c.

* [The exquisite arrangement of the barbules of the wing-feathers of the owls renders their under surface so soft as completely to deaden the sound which, from the absence of such structure in the wings of other birds, is produced by the percussion in the act of flight. Had Paley been acquainted with this beautiful structure, he might with even greater propriety have said that "every feather is a mechanical wonder." The full description of this structure we owe to Mr. John Quekett (Trans. Micr. Soc. ii. p. 25).—T. B.]

† [It is remarkable that Gilbert White appears not to have been aware of the occurrence in the neighbourhood of Selborne of any other species of owls than the two common ones, the white, or barn, and the brown owl. Two species of eared owl, *Asio otus* and *Asio accipitrinus*, have, however, repeatedly been taken or shot within or very near to this parish.

It will be proper to premise here that the sixteenth, eighteenth, twentieth, and twenty-first letters have been published already in the Philosophical Transactions: but as nicer observation has furnished several corrections and additions, it is hoped that the republication of them will not give offence; especially as these sheets would be very imperfect without them, and as they will be new to many readers who had no opportunity of seeing them when they made their first appearance.

The *hirundines* are a most inoffensive, harmless, entertaining, social, and useful tribe of birds: they touch no fruit in our gardens; delight, all except one species, in attaching themselves to our houses; amuse us with their migrations, songs, and marvellous agility; and clear our outlets from the annoyances of gnats and other troublesome insects. Some districts in the south seas, near *Guiaquil*,[c] are desolated, it seems, by the infinite swarms of venomous mosquitoes, which fill the air, and render those coasts insupportable. It would be worth inquiring whether any species of *hirundines* is found in those regions. Whoever contemplates the myriads of insects that sport in the sunbeams of a summer evening in this country, will soon be convinced to what a degree our atmosphere would be choaked with them was it not for the friendly interposition of the swallow tribe.

Many species of birds have their particular *lice;* but the

There are in the Alton Museum specimens of both species, which were killed in the vicinity. Of the former the occurrence is recorded at several places within a short distance of Selborne. The one preserved in the Alton Museum was killed at Lasham many years ago. Mr. Cooper, a very respectable bird-stuffer at Alton, had one of this species brought to him which was killed at East Tisted, within about four miles of Selborne; and in the year 1858 he saw one pitched upon a gate, which was so stupid that it allowed him to take it off with his hand. In the same year he had another specimen brought to him to be stuffed. In April of the year 1874 the gamekeeper of Arthur Scott, Esq., of Rotherfield Park, took two young ones out of an old magpie's nest in a larch at that place. I saw these young birds some time afterwards in perfect health, eating readily from the hand. One of these, now two years old, is still living and in health. It is a curious habit in this species that it seeks the old used-up nest of some other bird (generally, as in this instance, that of a magpie) for its own purpose. In the year 1874 one was killed at Temple Farm, in Selborne, by Mr. Bromwich, the occupier.—T. B.]

[c] See *Ulloa's* Travels.

hirundines alone seem to be annoyed with *dipterous* insects, which infest every species, and are so large, in proportion to themselves, that they must be extremely irksome and injurious to them. These are the *hippoboscæ hirundinis*, with narrow subulated wings, abounding in every nest; and are hatched by the warmth of the bird's own body during incubation, and crawl about under its feathers.

A *species* of them is familiar to horsemen in the south of *England* under the name of *forest-fly*; and to some of *side-fly*, from it's running sideways like a crab. It creeps under the tails, and about the groins of horses, which, at their first coming out of the north, are rendered half frantic by the tickling sensation; while our own breed little regards them *.

The curious *Reaumur* discovered the large eggs, or rather *pupæ*, of these flies as big as the flies themselves, which he hatched in his own bosom. Any person that will take the trouble to examine the old nests of either species of swallows may find in them the black shining cases of the *pupæ* of these insects: but for other particulars, too long for this place, we refer the reader to *l'Histoire d'Insectes* of that admirable entomologist. Tom. iv. pl. 11.

* [The following apparently cruel mode of inuring strange horses to the annoyance of this pest has, I have been assured, been practised in stables in the New Forest:—On the arrival of a horse from another locality, where the forest-fly is unknown, the stranger is placed in a perfectly empty loose box, a quantity of the flies thrown upon him, and he is then shut up for the night. This, it is said, effectually renders him callous to the attacks of the enemy, though doubtless at the cost of a night of torture. Mr. Bennett, in his edition of this work, has the following note (p. 248):—"In the New Forest, in Hampshire, whence the name of forest-fly, the *Hippobosca equina*, Linn., abounds in such profusion that Mr. Samouelle states, in his 'Entomologist's Useful Compendium,' that he has obtained from the flanks of one horse six handfuls, which consisted of upwards of a hundred specimens." The fact that the fly is found in greater numbers on light-coloured than dark-coloured horses is probably due to their being more easily observed from a distance among the dark heather.—T. B.]

LETTER XVI.

TO THE SAME.

Selborne, Nov. 23, 1773.

Dear Sir,

In obedience to your injunctions I sit down to give you some account of the house-martin, or martlet; and, if my monography of this little domestic and familiar bird should happen to meet with your approbation, I may probably soon extend my inquiries to the rest of the *British hirundines*—the swallow, the swift, and the bank-martin.

A few house-martins begin to appear about the sixteenth of *April;* usually some few days later than the swallow. For some time after they appear the hirundines in general pay no attention to the business of nidification, but play and sport about either to recruit from the fatigue of their journey, if they do migrate at all, or else that their blood may recover it's true tone and texture after it has been so long benumbed by the severities of winter. About the middle of *May*, if the weather be fine, the martin begins to think in earnest of providing a mansion for it's family. The crust or shell of this nest seems to be formed of such dirt or loam as comes most readily to hand, and is tempered and wrought together with little bits of broken straws to render it tough and tenacious. As this bird often builds against a perpendicular wall without any projecting ledge under, it requires it's utmost efforts to get the first foundation firmly fixed, so that it may safely carry the superstructure. On this occasion the bird not only clings with it's claws, but partly supports itself by strongly inclining it's tail against the wall, making that a fulcrum; and thus steadied it works and plasters the materials into the face of the brick or stone. But then, that this work may not, while it is soft and green, pull itself down by it's own weight, the provident architect has prudence and forbearance enough not to advance her work too fast; but by building only in the morning, and

by dedicating the rest of the day to food and amusement, gives it sufficient time to dry and harden. About half an inch seems to be a sufficient layer for a day. Thus careful workmen when they build mud-walls (informed at first perhaps by this little bird) raise but a moderate layer at a time, and then desist; lest the work should become top-heavy, and so be ruined by it's own weight. By this method in about ten or twelve days is formed an hemispheric nest with a small aperture towards the top, strong, compact, and warm; and perfectly fitted for all the purposes for which it was intended. But then nothing is more common than for the house-sparrow, as soon as the shell is finished, to seize on it as it's own, to eject the owner, and to line it after it's own manner.

After so much labour is bestowed in erecting a mansion, as Nature seldom works in vain, martins will breed on for several years together in the same nest, where it happens to be well sheltered and secure from the injuries of weather. The shell or crust of the nest is a sort of rustic work full of knobs and protuberances on the outside: nor is the inside of those that I have examined smoothed with any exactness at all; but is rendered soft and warm, and fit for incubation, by a lining of small straws, grasses, and feathers; and sometimes by a bed of moss interwoven with wool. In this nest they tread, or engender, frequently during the time of building; and the hen lays from three to five white eggs.

At first when the young are hatched, and are in a naked and helpless condition, the parent birds, with tender assiduity, carry out what comes away from their young. Was it not for this affectionate cleanliness the nestlings would soon be burnt up, and destroyed in so deep and hollow a nest, by their own caustic excrement. In the quadruped creation the same neat precaution is made use of; particularly among dogs and cats, where the dams lick away what proceeds from their young. But in birds there seems to be a particular provision, that the dung of nestlings is enveloped into a tough kind of jelly, and therefore is the easier conveyed off without soiling or daubing. Yet, as nature is cleanly in all her ways, the young perform this office for themselves in a little time by

thrusting their tails out at the aperture of their nest. As the young of small birds presently arrive at their *ἡλικία*, or full growth, they soon become impatient of confinement, and sit all day with their heads out at the orifice, where the dams, by clinging to the nest, supply them with food from morning to night. For a time the young are fed on the wing by their parents; but the feat is done by so quick and almost imperceptible a slight, that a person must have attended very exactly to their motions before he would be able to perceive it. As soon as the young are able to shift for themselves, the dams immediately turn their thoughts to the business of a second brood: while the first flight, shaken off and rejected by their nurses, congregate in great flocks, and are the birds that are seen clustering and hovering on sunny mornings and evenings round towers and steeples, and on the roofs of churches and houses. These congregatings usually begin to take place about the first week in *August;* and therefore we may conclude that by that time the first flight is pretty well over. The young of this species do not quit their abodes all together; but the more forward birds get abroad some days before the rest. These approaching the eaves of buildings, and playing about before them, make people think that several old ones attend one nest. They are often capricious in fixing on a nesting-place, beginning many edifices, and leaving them unfinished; but when once a nest is completed in a sheltered place, it serves for several seasons. Those which breed in a ready finished house get the start in hatching of those that build new by ten days or a fortnight. These industrious artificers are at their labours in the long days before four in the morning: when they fix their materials they plaster them on with their chins, moving their heads with a quick vibratory motion. They dip and wash as they fly sometimes in very hot weather, but not so frequently as swallows. It has been observed that martins usually build to a north-east or north-west aspect, that the heat of the sun may not crack and destroy their nests: but instances are also remembered where they bred for many years in vast abundance in an hot stifled inn-yard, against a wall facing to the south.

Birds in general are wise in their choice of situation: but in this neighbourhood every summer is seen a strong proof to the contrary at an house without eaves in an exposed district, where some martins build year by year in the corners of the windows. But, as the corners of these windows (which face to the south-east and south-west) are too shallow, the nests are washed down every hard rain; and yet these birds drudge on to no purpose from summer to summer, without changing their aspect or house. It is a piteous sight to see them labouring when half their nest is washed away and bringing dirt - - - "*generis lapsi sarcire ruinas.*" Thus is instinct a most wonderful unequal faculty; in some instances so much above reason, in other respects so far below it! Martins love to frequent towns, especially if there are great lakes and rivers at hand; nay they even affect the close air of *London.* And I have not only seen them nesting in the *Borough*, but even in the *Strand* and *Fleet-street;* but then it was obvious from the dinginess of their aspect that their feathers partook of the filth of that sooty atmosphere. Martins are by far the least agile of the four species; their wings and tails are short, and therefore they are not capable of such surprising turns and quick and glancing evolutions as the swallow. Accordingly they make use of a placid easy motion in a middle region of the air, seldom mounting to any great height, and never sweeping long together over the surface of the ground or water. They do not wander far for food, but affect sheltered districts, over some lake, or under some hanging wood, or in some hollow vale, especially in windy weather. They breed the latest of all the swallow kind: in 1772 they had nestlings on to *October* the twenty-first, and are never without unfledged young as late as *Michaelmas.*

As the summer declines the congregating flocks increase in numbers daily by the constant accession of the second broods; till at last they swarm in myriads upon myriads round the villages on the *Thames*, darkening the face of the sky as they frequent the aits of that river, where they roost. They retire, the bulk of them I mean, in vast flocks together about the beginning of *October:* but have appeared of late years in a

considerable flight in this neighbourhood, for one day or two, as late as *November* the third and sixth, after they were supposed to have been gone for more than a fortnight. They therefore withdraw with us the latest of any species. Unless these birds are very short-lived indeed, or unless they do not return to the district where they are bred, they must undergo vast devastations some how, and some where; for the birds that return yearly bear no manner of proportion to the birds that retire.

House-martins are distinguished from their congeners by having their legs covered with soft downy feathers down to their toes. They are no songsters; but twitter in a pretty inward soft manner in their nests. During the time of breeding they are often greatly molested with fleas.

I am, &c.

LETTER XVII.

TO THE SAME.

Ringmer, near Lewes, Dec. 9, 1773.

DEAR SIR,

I RECEIVED your last favour just as I was setting out for this place; and am pleased to find that my monography met with your approbation. My remarks are the result of many years observation; and are, I trust, true in the whole: though I do not pretend to say that they are perfectly void of mistake, or that a more nice observer might not make many additions, since subjects of this kind are inexhaustible.

If you think my letter worthy the notice of your respectable society, you are at liberty to lay it before them; and they will consider it, I hope, as it was intended, as an humble attempt to promote a more minute inquiry into natural history; into the life and conversation of animals. Perhaps hereafter I may be induced to take the house-swallow under consideration; and from that proceed to the rest of the *British hirundines.*

Though I have now travelled the *Sussex-downs* upwards of thirty years, yet I still investigate that chain of majestic mountains with fresh admiration year by year; and think I see new beauties every time I traverse it. This range, which runs from *Chichester* eastward as far as *East-Bourn*, is about sixty miles in length, and is called *The South Downs*, properly speaking, only round *Lewes*. As you pass along you command a noble view of the wild, or weald, on one hand, and the broad downs and sea on the other. Mr. *Ray* used to visit a family[d] just at the foot of these hills, and was so ravished with the prospect from *Plumpton-plain* near *Lewes*, that he mentions those scapes in his "Wisdom of God in the Works of the Creation" with the utmost satisfaction, and thinks them equal to any thing he had seen in the finest parts of *Europe*.

For my own part, I think there is somewhat peculiarly sweet and amusing in the shapely figured aspect of chalk-hills in preference to those of stone, which are rugged, broken, abrupt, and shapeless.

Perhaps I may be singular in my opinion, and not so happy as to convey to you the same idea; but I never contemplate these mountains without thinking I perceive somewhat analogous to growth in their gentle swellings and smooth fungus-like protuberances, their fluted sides, and regular hollows and slopes, that carry at once the air of vegetative dilatation and expansion - - - - - - - - - Or was there ever a time when these immense masses of calcarious matter were thrown into fermentation by some adventitious moisture; were raised and leavened into such shapes by some plastic power; and so made to swell and heave their broad backs into the sky so much above the less animated clay of the wild below?

By what I can guess from the admeasurements of the hills that have been taken round my house, I should suppose that these hills surmount the wild at an average at about the rate of five hundred feet.

[d] Mr. *Courthope*, of *Danny*.

One thing is very remarkable as to the sheep: from the westward till you get to the river *Adur* all the flocks have horns, and smooth white faces, and white legs; and a hornless sheep is rarely to be seen: but as soon as you pass that river eastward, and mount *Beeding-hill*, all the flocks at once become hornless, or, as they call them, poll-sheep; and have moreover black faces with a white tuft of wool on their foreheads, and speckled and spotted legs: so that you would think that the flocks of *Laban* were pasturing on one side of the stream, and the variegated breed of his son-in-law *Jacob* were cantoned along on the other. And this diversity holds good respectively on each side from the valley of *Bramber* and *Beeding* to the eastward, and westward all the whole length of the downs. If you talk with the shepherds on this subject, they tell you that the case has been so from time immemorial: and smile at your simplicity if you ask them whether the situation of these two different breeds might not be reversed? However, an intelligent friend of mine near *Chichester* is determined to try the experiment; and has this autumn, at the hazard of being laughed at, introduced a parcel of black-faced hornless rams among his horned western ewes. The black-faced poll-sheep have the shortest legs and the finest wool.

As I had hardly ever before travelled these downs at so late a season of the year, I was determined to keep as sharp a look-out as possible so near the southern coast, with respect to the summer short-winged birds of passage. We make great inquiries concerning the withdrawing of the swallow kind, without examining enough into the causes why *this tribe* is never to be seen in winter; for, *entre nous*, the disappearing of the latter is more marvellous than that of the former, and much more unaccountable. The *hirundines*, if they please, are certainly capable of migration; and yet no doubt are often found in a torpid state: but redstarts, nightingales, white-throats, black-caps, &c. &c. are very ill provided for long flights; have never been once found, as I ever heard of, in a torpid state, and yet can never be supposed, in such troops, from year to year to dodge and elude the eyes of the curious

and inquisitive, which from day to day discern the other small birds that are known to abide our winters. But, notwithstanding all my care, I saw nothing like a summer bird of passage: and, what is more strange, not one wheat-ear, though they abound so in the autumn as to be a considerable perquisite to the shepherds that take them; and though many are to be seen to my knowledge all the winter through in many parts of the south of *England*. The most intelligent shepherds tell me that some few of these birds appear on the downs in *March*, and then withdraw to breed probably in warrens and stone-quarries: now and then a nest is plowed up in a fallow on the downs under a furrow, but it is thought a rarity. At the time of wheat-harvest they begin to be taken in great numbers; are sent for sale in vast quantities to *Brighthelmstone* and *Tunbridge;* and appear at the tables of all the gentry that entertain with any degree of elegance. About *Michaelmas* they retire and are seen no more till *March*. Though these birds are, when in season, in great plenty on the south downs round *Lewes*, yet at *East-Bourn*, which is the eastern extremity of those downs, they abound much more. One thing is very remarkable—that though in the height of the season so many hundreds of dozens are taken, yet they never are seen to flock; and it is a rare thing to see more than three or four at a time: so that there must be a perpetual flitting and constant progressive succession. It does not appear that any wheat-ears are taken to the westward of *Houghton-bridge*, which stands on the river *Arun*.

I did not fail to look particularly after my new migration of *ring-ousels;* and to take notice whether they continued on the downs to this season of the year; as I had formerly remarked them in the month of *October* all the way from *Chichester* to *Lewes* wherever there were any shrubs and covert: but not one bird of this sort came within my observation. I only saw a few *larks* and *whin-chats*, some *rooks*, and several *kites* and *buzzards*.

About *Midsummer* a flight of *cross-bills* comes to the pine-groves about this house, but never makes any long stay.

The old tortoise, that I have mentioned in a former letter,

still continues in this garden; and retired under ground about the twentieth of *November*, and came out again for one day on the thirtieth: it lies now buried in a wet swampy border under a wall facing to the south, and is enveloped at present in mud and mire!

Here is a large rookery round this house, the inhabitants of which seem to get their livelihood very easily; for they spend the greatest part of the day on their nest-trees when the weather is mild. These rooks retire every evening all the winter from this rookery, where they only call by the way, as they are going to roost in deep woods: at the dawn of day they always revisit their nest-trees, and are preceded a few minutes by a flight of daws, that act, as it were, as their harbingers.

I am, &c.

LETTER XVIII.

TO THE SAME.

Selborne, Jan. 29, 1774.

Dear Sir,

The house-swallow, or chimney-swallow, is undoubtedly the first comer of all the *British hirundines;* and appears in general on or about the thirteenth of *April*, as I have remarked from many years observation. Not but now and then a straggler is seen much earlier: and, in particular, when I was a boy I observed a swallow for a whole day together on a sunny warm *Shrove Tuesday;* which day could not fall out later than the middle of *March*, and often happened early in *February*.

It is worth remarking that these birds are seen first about lakes and mill-ponds; and it is also very particular, that if these early visitors happen to find frost and snow, as was the the case of the two dreadful springs of 1770 and 1771, they immediately withdraw for a time. A circumstance this much more in favour of hiding than migration; since it is much

more probable that a bird should retire to it's hybernaculum just at hand, than return for a week or two only to warmer latitudes.

The swallow, though called the chimney-swallow, by no means builds altogether in chimnies, but often within barns and out-houses against the rafters; and so she did in *Virgil's* time:

— — — — "Antè
"Garrula quàm tignis nidos suspendat hirundo."

In *Sweden* she builds in barns, and is called *ladu swala*, the barn-swallow. Besides, in the warmer parts of *Europe* there are no chimnies to houses, except they are *English-built:* in these countries she constructs her nest in porches, and gate-ways, and galleries, and open halls *.

Here and there a bird may affect some odd, peculiar place; as we have known a swallow build down the shaft of an old well, through which chalk had been formerly drawn up for the purpose of manure: but in general with us this *hirundo* breeds in chimnies; and loves to haunt those stacks where there is a constant fire, no doubt for the sake of warmth. Not that it can subsist in the immediate shaft where there is a fire; but prefers one adjoining to that of the kitchen, and disregards the perpetual smoke of that funnel, as I have often observed with some degree of wonder.

Five or six or more feet down the chimney does this little bird begin to form her nest about the middle of *May*, which consists, like that of the house-martin, of a crust or shell composed of dirt or mud, mixed with short pieces of straw to render it tough and permanent; with this difference, that whereas the shell of the martin is nearly hemispheric, that of the swallow is open at the top, and like half a deep dish: this nest is lined with fine grasses, and feathers which are often collected as they float in the air.

* [Many years ago, when some carpenters were occupying my coach-house as a temporary workshop, a pair of chimney-swallows chose to build their nest on a cross beam but a very few feet above the heads of the workmen, where they brought up not only their first but also their second brood, notwithstanding the noise of the work which was constantly going on beneath them.—T. B.]

Wonderful is the address which this adroit bird shews all day long in ascending and descending with security through so narrow a pass. When hovering over the mouth of the funnel, the vibrations of her wings acting on the confined air occasion a rumbling like thunder. It is not improbable that the dam submits to this inconvenient situation so low in the shaft, in order to secure her broods from rapacious birds, and particularly from owls, which frequently fall down chimnies, perhaps in attempting to get at these nestlings.

The swallow lays from four to six white eggs, dotted with red specks; and brings out her first brood about the last week in *June*, or the first week in *July*. The progressive method by which the young are introduced into life is very amusing: first, they emerge from the shaft with difficulty enough, and often fall down into the rooms below: for a day or so they are fed on the chimney-top, and then are conducted to the dead leafless bough of some tree, where, sitting in a row, they are attended with great assiduity, and may then be called *perchers*. In a day or two more they become *flyers*, but are still unable to take their own food; therefore they play about near the place where the dams are hawking for flies; and, when a mouthful is collected, at a certain signal given, the dam and the nestling advance, rising towards each other, and meeting at an angle; the young one all the while uttering such a little quick note of gratitude and complacency, that a person must have paid very little regard to the wonders of Nature that has not often remarked this feat.

The dam betakes herself immediately to the business of a second brood as soon as she is disengaged from her first; which at once associates with the first broods of *house-martins;* and with them congregates, clustering on sunny roofs, towers, and trees. This hirundo brings out her second brood towards the middle and end of *August*.

All the summer long is the swallow a most instructive pattern of unwearied industry and affection; for, from morning to night, while there is a family to be supported, she spends the whole day in skimming close to the ground, and exerting the most sudden turns and quick evolutions. Avenues, and

long walks under hedges, and pasture-fields, and mown meadows where cattle graze, are her delight, especially if there are trees interspersed; because in such spots insects most abound. When a fly is taken a smart snap from her bill is heard, resembling the noise at the shutting of a watch-case; but the motion of the mandibles are too quick for the eye.

The swallow, probably the male bird, is the *excubitor* to house-martins, and other little birds, announcing the approach of birds of prey. For as soon as an hawk appears, with a shrill alarming note he calls all the swallows and martins about him; who pursue in a body, and buffet and strike their enemy till they have driven him from the village, darting down from above on his back, and rising in a perpendicular line in perfect security. This bird also will sound the alarm, and strike at cats when they climb on the roofs of houses, or otherwise approach the nests. Each species of hirundo drinks as it flies along, sipping the surface of the water; but the swallow alone, in general, *washes* on the wing, by dropping into a pool for many times together: in very hot weather house-martins and bank-martins dip and wash little.

The swallow is a delicate songster, and in soft sunny weather sings both perching and flying; on trees in a kind of concert, and on chimney tops: is also a bold flyer, ranging to distant downs and commons even in windy weather, which the other species seem much to dislike; nay, even frequenting exposed sea-port towns, and making little excursions over the salt water. Horsemen on wide downs are often closely attended by a little party of swallows for miles together, which plays before and behind them, sweeping around, and collecting all the sculking insects that are roused by the trampling of the horses' feet: when the wind blows hard, without this expedient, they are often forced to settle to pick up their lurking prey.

This species feeds much on little *coleoptera*, as well as on gnats and flies: and often settles on dug ground, or paths, for gravels to grind and digest it's food. Before they depart, for some weeks, to a bird, they forsake houses and chimnies, and roost in trees; and usually withdraw about the beginning of

October; though some few stragglers may appear on at times till the first week in *November*.

Some few pairs haunt the new and open streets of *London* next the fields, but do not enter, like the house-martin, the close and crowded parts of the city.

Both male and female are distinguished from their congeners by the length and forkedness of their tails. They are undoubtedly the most nimble of all the species: and when the male pursues the female in amorous chase, they then go beyond their usual speed, and exert a rapidity almost too quick for the eye to follow.

After this circumstantial detail of the life and discerning στοργη of the swallow, I shall add, for your farther amusement, an anecdote or two not much in favour of her sagacity:—

A certain swallow built for two years together on the handles of a pair of garden-shears, that were stuck up against the boards in an out-house, and therefore must have her nest spoiled whenever that implement was wanted: and, what is stranger still, another bird of the same species built it's nest on the wings and body of an owl that happened by accident to hang dead and dry from the rafter of a barn. This owl, with the nest on it's wings, and with eggs in the nest, was brought as a curiosity worthy the most elegant private museum in *Great-Britain*. The owner, struck with the oddity of the sight, furnished the bringer with a large shell, or conch, desiring him to fix it just where the owl hung: the person did as he was ordered, and the following year a pair, probably the same pair, built their nest in the conch, and laid their eggs.

The owl and the conch make a strange grotesque appearance, and are not the least curious specimens in that wonderful collection of art and nature.[f]

Thus is instinct in animals, taken the least out of it's way,

[f] Sir *Ashton Lever's* Musæum *.

* [The "Leverian Museum," as it was termed, was a very interesting place of resort to Gilbert White on his occasional visits to London; and many references to its contents will be found in his letters to his brother and nephew. "This fine collection, which was exhibited at Leicester

an undistinguishing, limited faculty; and blind to every circumstance that does not immediately respect self-preservation, or lead at once to the propagation or support of their species.

I am,

With all respect, &c. &c.

LETTER XIX.

TO THE SAME.

Selborne, Feb. 14, 1774.

Dear Sir,

I received your favour of the eighth, and am pleased to find that you read my little history of the swallow with your usual candour: nor was I the less pleased to find that you made objections where you saw reason.

As to the quotations, it is difficult to say precisely which species of hirundo *Virgil* might intend in the lines in question, since the ancients did not attend to specific differences like modern naturalists: yet somewhat may be gathered, enough to incline me to suppose that in the two passages quoted the poet had his eye on the swallow.

In the first place the epithet *garrula* suits the *swallow* well, who is a great songster; but not the *martin*, which is rather a mute bird; and when it sings is so inward as scarce to be heard. Besides, if *tignum* in that place signifies a *rafter* rather than a *beam*, as it seems to me to do, then I think it must be the *swallow* that is alluded to, and not the *martin;* since the former does frequently build *within the roof* against the *rafters;* while the latter always, as far as I have been able to observe, builds *without the roof* against eaves and cornices.

As to the *simile*, too much stress must not be laid on it: yet the epithet *nigra* speaks plainly in favour of the swallow,

House, London, was offered to the public in a guinea lottery in 1785, but only 8000 tickets out of 36,000 were sold. A Mr. Parkinson, the holder of only two tickets, became its possessor; and by him it was distributed by auction in September 1806."—T. B.]

whose back and wings are very black; while the rump of the martin is milk-white, it's back and wings blue, and all it's under part white as snow. Nor can the clumsy motions (comparatively clumsy) of the martin well represent the sudden and artful evolutions and quick turns which *Juturna* gave to her brother's chariot, so as to elude the eager pursuit of the enraged *Æneas*. The verb *sonat* also seems to imply a bird that is somewhat loquacious.[g]

We have had a very wet autumn and winter, so as to raise the springs to a pitch beyond any thing since 1764; which was a remarkable year for floods and high waters. The land-springs, which we call *lavants*, break out much on the downs of *Sussex*, *Hampshire* and *Wiltshire*. The country people say when the *lavants* rise corn will always be dear; meaning that when the earth is so glutted with water as to send forth springs on the downs and uplands, that the corn-vales must be drowned; and so it has proved for these ten or eleven years past. For land-springs have never obtained more since the memory of man than during that period; nor has there been known a greater scarcity of all sorts of grain, considering the great improvements of modern husbandry. Such a run of wet seasons a century or two ago would, I am persuaded, have occasioned a famine. Therefore pamphlets and news-paper letters, that talk of combinations, tend to inflame and mislead; since we must not expect plenty till Providence sends us more favourable seasons.

The wheat of last year, all round this district, and in the county of *Rutland*, and elsewhere, yields remarkably bad: and our wheat on the ground, by the continual late sudden vicissitudes from fierce frost to pouring rains, looks poorly; and the turnips rot very fast.

I am, &c.

[g] "*Nigra* velut magnas domini cum divitis ædes
"Pervolat, et pennis alta atria lustrat hirundo,
"Pabula parva legens, nidisque loquacibus escas:
"Et nunc porticibus vacuis, nunc humida circum
"Stagna *sonat*. — — — —"

Æn. xii. 473–477.

LETTER XX.

TO THE SAME.

Selborne, Feb. 26, 1774.

DEAR SIR,

THE sand-martin, or bank-martin, is by much the least of any of the *British hirundines;* and, as far as we have ever seen, the smallest known hirundo: though *Brisson* asserts that there is one much smaller, and that is the *hirundo esculenta.*

But it is much to be regretted that it is scarce possible for any observer to be so full and exact as he could wish in reciting the circumstances attending the life and conversation of this little bird, since it is *fera naturâ,* at least in this part of the kingdom, disclaiming all domestic attachments, and haunting wild heaths and commons where there are large lakes; while the other species, especially the swallow and house-martin, are remarkably gentle and domesticated, and never seem to think themselves safe but under the protection of man.

Here are in this parish, in the sand-pits and banks of the lakes of *Wolmer-forest,* several colonies of these birds; and yet they are never seen in the village; nor do they at all frequent the cottages that are scattered about in that wild district. The only instance I ever remember where this species haunts any building is at the town of *Bishop's Waltham,* in this county, where many sand-martins nestle and breed in the scaffold-holes of the back-wall of *William* of *Wykeham's* stables: but then this wall stands in a very sequestered and retired enclosure, and faces upon a large and beautiful lake. And indeed this species seems so to delight in large waters, that no instance occurs of their abounding, but near vast pools or rivers: and in particular it has been remarked that they swarm in the banks of the *Thames* in some places below *London-bridge.*

It is curious to observe with what different degrees of architectonic skill Providence has endowed birds of the same genus, and so nearly correspondent in their general mode of life! for while the swallow and the house-martin discover the greatest address in raising and securely fixing crusts or shells of loam as cunabula for their young, the bank-martin terebrates a round and regular hole in the sand or earth, which is serpentine, horizontal, and about two feet deep. At the inner end of this burrow does this bird deposit, in a good degree of safety, her rude nest, consisting of fine grasses and feathers, usually goose-feathers, very inartificially laid together.

Perseverance will accomplish anything: though at first one would be disinclined to believe that this weak bird, with her soft and tender bill and claws, should ever be able to bore the stubborn sand-bank without entirely disabling herself; yet with these feeble instruments have I seen a pair of them make great dispatch: and could remark how much they had scooped that day by the fresh sand which ran down the bank, and was of a different colour from that which lay loose and bleached in the sun.

In what space of time these little artists are able to mine and finish these cavities I have never been able to discover, for reasons given above; but it would be a matter worthy of observation, where it falls in the way of any naturalist to make his remarks. This I have often taken notice of, that several holes of different depths are left unfinished at the end of summer. To imagine that these beginnings were intentionally made in order to be in the greater forwardness for next spring, is allowing perhaps too much foresight and *rerum prudentia* to a simple bird. May not the cause of these *latebræ* being left unfinished arise from their meeting in those places with strata too harsh, hard, and solid, for their purpose, which they relinquish, and go to a fresh spot that works more freely? Or may they not in other places fall in with a soil as much too loose and mouldering, liable to flounder, and threatening to overwhelm them and their labours?

One thing is remarkable—that, after some years, the old

holes are forsaken and new ones bored; perhaps because the old habitations grow foul and fetid from long use, or because they may so abound with fleas as to become untenantable. This species of swallow moreover is strangely annoyed with fleas: and we have seen fleas, bed-fleas *(pulex irritans)*, swarming at the mouths of these holes, like bees upon the stools of their hives *.

The following circumstance should by no means be omitted —that these birds do *not* make use of their caverns by way of hybernacula, as might be expected; since banks so perforated have been dug out with care in the winter, when nothing was found but empty nests.

The sand-martin arrives much about the same time with the swallow, and lays, as she does, from four to six white eggs. But as this species is *cryptogame*, carrying on the business of nidification, incubation, and the support of it's young in the dark, it would not be so easy to ascertain the time of breeding, were it not for the coming forth of the broods, which appear much about the time, or rather somewhat earlier than those of the swallow. The nestlings are supported in common like those of their congeners, with gnats and other small insects; and sometimes they are fed with *libellulæ* (dragon-flies) almost as long as themselves. In the last week in *June* we have seen a row of these sitting on a rail near a great pool as *perchers;* and so young and helpless, as easily to be taken by hand: but whether the dams ever feed them on the wing, as swallows and house-martins do, we have never yet been able to determine; nor do we know whether they pursue and attack birds of prey.

When they happen to breed near hedges and enclosures, they are dispossessed of their breeding holes by the house-sparrow, which is on the same account a fell adversary to house-martins.

These *hirundines* are no songsters, but rather mute, making

* [Not only is the flea of the sand-martin of a different species from the bed-flea, but it was placed by Mr. Curtis in a different genus "*Ceratophythis.*" It is also distinct from the flea which infests the swallow, *Pulex hirundinis.*—T. B.]

only a little harsh noise when a person approaches their nests. They seem not to be of a sociable turn, never with us congregating with their congeners in the autumn. Undoubtedly they breed a second time, like the house-martin and swallow; and withdraw about *Michaelmas*.

Though in some particular districts they may happen to abound, yet in the whole, in the south of *England* at least, is this much the rarest species. For there are few towns or large villages but what abound with house-martins; few churches, towers, or steeples, but what are haunted by some swifts; scarce a hamlet or single cottage-chimney that has not its swallow; while the bank-martins, scattered here and there, live a sequestered life among some abrupt sand-hills, and in the banks of some few rivers.

These birds have a peculiar manner of flying; flitting about with odd jerks, and vacillations, not unlike the motions of a butterfly. Doubtless the flight of all *hirundines* is influenced by and adapted to, the peculiar sort of insects which furnish their food. Hence it would be worth inquiry to examine what particular group of insects affords the principal food of each respective species of swallow.

Notwithstanding what has been advanced above, some few sand-martins, I see, haunt the skirts of *London*, frequenting the dirty pools in *Saint George's-Fields*, and about *White-Chapel*. The question is where these build, since there are no banks or bold shores in that neighbourhood: perhaps they nestle in the scaffold holes of some old or new deserted building. They dip and wash as they fly sometimes, like the house-martin and swallow.

Sand-martins differ from their congeners in the diminutiveness of their size, and in their colour, which is what is usually called a mouse-colour. Near *Valencia* in *Spain*, they are taken, says *Willughby*, and sold in the markets for the table; and are called by the country people, probably from their desultory jerking manner of flight, *Papilion de Montagna*.

LETTER XXI.

TO THE SAME.

Selborne, Sept. 28, 1774.

Dear Sir,

As the *swift* or *black-martin* is the largest of the *British hirundines*, so is it undoubtedly the latest comer. For I remember but one instance of it's appearing before the last week in *April:* and in some of our late frosty, harsh springs, it has not been seen till the beginning of *May*. This species usually arrives in pairs.

The swift, like the sand-martin, is very defective in architecture, making no crust, or shell, for it's nest; but forming it of dry grasses and feathers, very rudely and inartificially put together. With all my attention to these birds, I have never been able once to discover one in the act of collecting or carrying in materials: so that I have suspected (since their nests are exactly the same) that they sometimes usurp upon the house-sparrows, and expel them, as sparrows do the house and sand-martin; well remembering that I have seen them squabbling together at the entrance of their holes; and the sparrows up in arms, and much disconcerted at these intruders. And yet I am assured, by a nice observer in such matters, that they do collect feathers for their nests in *Andalusia;* and that he has shot them with such materials in their mouths *.

Swifts, like sand-martins, carry on the business of nidification quite in the dark, in crannies of castles, and towers, and steeples, and upon the tops of the walls of churches under the roof; and therefore cannot be so narrowly watched as those species that build more openly: but, from what I could

* [His brother, the Rev. John White, then chaplain at Gibraltar, afterwards incumbent of Blackburn, Lancashire; for many years his principal correspondent.—T. B.]

ever observe, they begin nesting about the middle of *May;* and I have remarked, from eggs taken, that they have sat hard by the ninth of *June.* In general they haunt tall buildings, churches, and steeples, and breed only in such: yet in this village some pairs frequent the lowest and meanest cottages, and educate their young under those thatched roofs. We remember but one instance where they breed out of buildings; and that is in the sides of a deep chalkpit near the town of *Odiham,* in this county, where we have seen many pairs entering the crevices, and skimming and squeaking round the precipices.

As I have regarded these amusive birds with no small attention, if I should advance something new and peculiar with respect to them, and different from all other birds, I might perhaps be credited; especially as my assertion is the result of many years exact observation. The fact that I would advance is, that swifts *tread,* or copulate, on the wing: and I would wish any nice observer, that is startled at this supposition, to use his own eyes, and I think he will soon be convinced. In another *class* of animals, *viz.* the *insect,* nothing is so common as to see the different species of many genera in conjunction as they fly. The swift is almost continually on the wing; and as it never settles on the ground, on trees, or roofs, would seldom find opportuity for amorous rites, was it not enabled to indulge them in the air. If any person would watch these birds of a fine morning in *May,* as they are sailing round at a great height from the ground, he would see, every now and then, one drop on the back of another, and both of them sink down together for many fathoms with a loud piercing shriek. This I take to be the juncture when the business of generation is carrying on.

As the swift eats, drinks, collects materials for it's nest, and, as it seems, propagates on the wing; it appears to live more in the air than any other bird, and to perform all functions there save those of sleeping and incubation.

This *hirundo* differs widely from it's congeners in laying invariably but *two* eggs at a time, which are milk-white, long, and peaked at the small end; whereas the other species lay at

each brood from *four* to *six*. It is a most alert bird, rising very early, and retiring to roost very late; and is on the wing in the height of summer at least sixteen hours. In the longest days it does not withdraw to rest till a quarter before nine in the evening, being the latest of all day birds. Just before they retire whole groups of them assemble high in the air, and squeak, and shoot about with wonderful rapidity. But this bird is never so much alive as in sultry thundry weather, when it expresses great alacrity, and calls forth all it's powers. In hot mornings several, getting together in little parties, dash round the steeples and churches, squeaking as they go in a very clamorous manner: these, by nice observers, are supposed to be males, serenading their sitting hens; and not without reason, since they seldom squeak till they come close to the walls or eaves, and since those within utter at the same time a little inward note of complacency.

When the hen has sat hard all day, she rushes forth just as it is almost dark, and stretches and relieves her weary limbs, and snatches a scanty meal for a few minutes, and then returns to her duty of incubation. Swifts, when wantonly and cruelly shot while they have young, discover a little lump of insects in their mouths, which they pouch and hold under their tongue. In general they feed in a much higher district than the other species; a proof that gnats and other insects do also abound to a considerable height in the air: they also range to vast distances; since loco-motion is no labour to them, who are endowed with such wonderful powers of wing. Their powers seem to be in proportion to their levers; and their wings are longer in proportion than those of almost any other bird. When they mute, or ease themselves in flight, they raise their wings, and make them meet over their backs.

At some certain times in the summer I had remarked that swifts were hawking very low for hours together over pools and streams; and could not help inquiring into the object of their pursuit that induced them to descend so much below their usual range. After some trouble, I found that they were taking *phryganeæ*, *ephemeræ*, and *libellulæ* (cadew-flies,

may-flies, and dragon-flies) that were just emerged out of their aurelia state. I then no longer wondered that they should be so willing to stoop for a prey that afforded them such plentiful and succulent nourishment.

They bring out their young about the middle or latter end of *July:* but as these never become perchers, nor, that ever I could discern, are fed on the wing by their dams, the coming forth of the young is not so notorious as in the other species.

On the thirtieth of last *June* I untiled the eaves of an house where many pairs build, and found in each nest only *two* squab naked *pulli:* on the eighth of *July* I repeated the same inquiry, and found they had made very little progress towards a fledged state, but were still naked and helpless. From whence we may conclude that birds whose way of life keeps them perpetually on the wing would not be able to quit their nest till the end of the month. Swallows and martins, that have numerous families, are continually feeding them every two or three minutes; while swifts, that have but two young to maintain, are much at their leisure, and do not attend on their nests for hours together.

Sometimes they pursue and strike at hawks that come in their way; but not with that vehemence and fury that swallows express on the same occasion. They are out all day long in wet days, feeding about, and disregarding still rain: from whence two things may be gathered; first, that many insects abide high in the air, even in rain; and next, that the feathers of these birds must be well preened to resist so much wet. Windy, and particularly windy weather with heavy showers, they dislike; and on such days withdraw, and are scarce ever seen.

There is a circumstance respecting the *colour* of swifts, which seems not to be unworthy our attention. When they arrive in the spring they are all over of a glossy, dark soot-colour, except their chins, which are white; but, by being all day long in the sun and air, they become quite weather-beaten and bleached before they depart, and yet they return glossy again in the spring. Now, if they pursue the sun into

lower latitudes, as some suppose, in order to enjoy a perpetual summer, why do they not return bleached? Do they not rather perhaps retire to rest for a season, and at that juncture moult and change their feathers, since all other birds are known to moult soon after the season of breeding*.

Swifts are very anomalous in many particulars, dissenting from all their congeners not only in the number of their young, but in breeding but *once* in a summer; whereas all the other *British hirundines* breed invariably *twice*. It is past all doubt that swifts can breed but once, since they withdraw in a short time after the flight of their young, and some time before their congeners bring out their second brood. We may here remark, that, as swifts breed but *once* in a summer, and only *two* at a time, and the other *hirundines twice*, the latter, who lay from four to six eggs, increase at an average five times as fast as the former.

But in nothing are swifts more singular than in their early retreat. They retire, as to the main body of them, by the tenth of *August*, and sometimes a few days sooner: and every straggler invariably withdraws by the twentieth, while their congeners, all of them, stay till the beginning of *October;* many of them all through that month, and some occasionally to the beginning of *November*. This early retreat is mysterious and wonderful, since that time is often the sweetest season in the year. But, what is more extraordinary, they begin to retire still earlier in the most southerly parts of *Andalusia*, where they can be no ways influenced by any defect of heat; or, as one might suppose, defect of food. Are they regulated in their motions with us by a failure of food, or by a propensity to moulting, or by a disposition to rest after so

* [Mr. Yarrell has the following observation on this question in Mr. Bennett's edition, p. 277:—"The swift departs before its moult, and when its plumage is at the worst from wear and tear. Our summer visitors generally complete their moult before they leave us, but not the *Hirundinidæ*."

Dr. Jenner's observations indisputably prove that swifts return year after year to the same breeding-place. One of them, which he had marked by the amputation of two of its toes, was seen to revisit its old haunts seven years after.—T. B.]

rapid a life, or by what? This is one of those incidents in natural history that not only baffles our searches, but almost eludes our guesses!

These hirundines never perch on trees or roofs, and so never congregate with their congeners. They are fearless while haunting their nesting places, and are not to be scared with a gun; and are often beaten down with poles and cudgels as they stoop to go under the eaves. Swifts are much infested with those pests to the genus called *hippoboscæ hirundinis;* and often wriggle and scratch themselves, in their flight, to get rid of that clinging annoyance.

Swifts are no songsters, and have only one harsh screaming note; yet there are ears to which it is not displeasing, from an agreeable association of ideas, since that note never occurs but in the most lovely summer weather.

They never settle on the ground but through accident; and when down can hardly rise, on account of the shortness of their legs and the length of their wings: neither can they walk, but only crawl; but they have a strong grasp with their feet, by which they cling to walls. Their bodies being flat they can enter a very narrow crevice; and where they cannot pass on their bellies they will turn up edgewise.

The particular formation of the foot discriminates the swift from all *British hirundines;* and indeed from all other known birds, the *hirundo melba*, or great white-bellied swift of *Gibraltar*, excepted; for it is so disposed as to carry "*omnes quatuor digitos anticos*" all it's four toes forward; besides the least toe, which should be the back-toe, consists of one bone alone, and the other three only of two apiece. A construction most rare and peculiar, but nicely adapted to the purposes in which their feet are employed. This, and some peculiarities attending the nostrils and under mandible, have induced a discerning [g] naturalist to suppose that this *species* might constitute a *genus per se**.

[g] John Antony Scopoli, of Carniola, M.D.

* [There can be no hesitation as to the generic distinction of the swifts from the *Hirundines* properly so called. The generic name given by Illiger, *Cypselus*, is now universally received. But not only are the swifts

In *London* a party of swifts frequents the *Tower*, playing and feeding over the river just below the bridge: others haunt some of the churches of the *Borough* next the fields; but do not venture, like the *house-martin*, into the close crowded part of the town.

The *Swedes* have bestowed a very pertinent name on this swallow, calling it *ring swala*, from the perpetual *rings* or circles that it takes round the scene of it's nidification.

Swifts feed on *coleoptera*, or small beetles with hard cases over their wings, as well as on the softer insects; but it does not appear how they can procure gravel to grind their food, as swallows do, since they never settle on the ground. Young ones, over-run with *hippoboscæ*, are sometimes found, under their nests, fallen to the ground: the number of vermin rendering their abode insupportable any longer. They frequent in this village several abject cottages: yet a succession still haunts the same unlikely roofs: a good proof this that the same birds return to the same spots. As they must stoop very low to get up under these humble eaves, cats lie in wait, and sometimes catch them on the wing.

On the fifth of *July*, 1775, I again untiled part of a roof over the nest of a swift. The dam sat in the nest; but so strongly was she affected by natural στοργη for her brood, which she supposed to be in danger, that, regardless of her own safety, she would not stir, but lay sullenly by them, permitting herself to be taken in hand. The squab young we brought down and placed on the grass-plot, where they tumbled about, and were as helpless as a new-born child. While we contemplated their naked bodies, their unwieldy disproportioned abdomina, and their heads, too heavy for their necks to support, we could not but wonder when we reflected

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and swallows generically distinct, but they are now by all the best systematic ornithologists placed in distinct *orders*. The structural affinity of the swifts to the humming-birds is clearly established, and will be found fully demonstrated by Professor Newton in his edition of Yarrell. The Alpine swift, *C. melba*, is repeatedly alluded to under the name *Hirundo melba* in Gilbert White's correspondence with his brother John. (See letters in the Appendix).—T. B.]

that these shiftless beings in a little more than a fortnight would be able to dash through the air almost with the inconceivable swiftness of a meteor; and perhaps, in their emigragration must traverse vast continents and oceans as distant as the equator. So soon does Nature advance small birds to their *ἡλικια*, or state of perfection; while the progressive growth of men and large quadrupeds is slow and tedious!

I am, &c.

LETTER XXII.

TO THE SAME.

Selborne, Sept. 13, 1774.

Dear Sir,

By means of a straight cottage-chimney I had an opportunity this summer of remarking, at my leisure, how swallows ascend and descend through the shaft; but my pleasure, in contemplating the address with which this feat was performed to a considerable depth in the chimney, was somewhat interrupted by apprehensions lest my eyes might undergo the same fate with those of *Tobit*.[1]

Perhaps it may be some amusement to you to hear at what times the different species of hirundines arrived this spring in three very distant counties of this kingdom. With us the swallow was seen first on *April* the 4th, the swift on *April* the 24th, the bank-martin on *April* the 12th, and the house-martin not till *April* the 30th. At *South Zele, Devonshire*, swallows did not arrive till *April* the 25th; swifts, in plenty, on *May* the 1st; and house-martins not till the middle of *May*. At *Blackburn*, in *Lancashire*, swifts were seen *April* the 28th, swallows *April* the 29th, house-martins *May* the 1st. Do these different dates, in such distant districts prove any thing for or against migration?

[1] Tobit ii. 10.

A farmer, near *Weyhill*, fallows his land with two teams of asses; one of which works till noon, and the other in the afternoon. When these animals have done their work, they are penned, all night, like sheep, on the fallow. In the winter they are confined and foddered in a yard, and make plenty of dung.

Linnæus says that hawks "*paciscuntur inducias cum avibus, quamdiu cuculus cuculat:*" but it appears to me that, during that period, many little birds are taken and destroyed by birds of prey, as may be seen by their feathers left in lanes and under hedges.

The *missel-thrush* is, while breeding, fierce and pugnacious, driving such birds as approach it's nest, with great fury, to a distance. The *Welch* call it *pen y llwyn*, the head or master of the coppice. He suffers no magpie, jay, or blackbird, to enter the garden where he haunts; and is, for the time, a good guard to the new-sown legumens. In general he is very successful in the defence of his family: but once I observed in my garden, that several magpies came determined to storm the nest of a missel-thrush: the dams defended their mansion with great vigour, and fought resolutely *pro aris & focis;* but numbers at last prevailed, they tore the nest to pieces, and swallowed the young alive.

In the season of nidification the wildest birds are comparatively tame. Thus the *ring-dove* breeds in my fields, though they are continually frequented; and the missel-thrush, though most shy and wild in the autumn and winter, builds in my garden close to a walk where people are passing all day long*.

Wall-fruit abounds with me this year: but my grapes, that used to be forward and good, are at present backward beyond all precedent: and this is not the worst of the story; for the

* [Both these species still keep up their familiarity with the same spots. The ring-dove not only builds in the grounds near the house, but a pair, last summer, nested in an elm within a few yards of the door which forms the ordinary passage into the garden, and this year a pair, probably the same, chose a large fir on the lawn, very near the house. The missel-thrush has its nest every year in the spot indicated in the text.—T. B.]

same ungenial weather, the same black cold solstice, has injured the more necessary fruits of the earth, and discoloured and blighted our wheat. The crop of hops promises to be very large.

Frequent returns of deafness incommode me sadly, and half disqualify me for a naturalist; for, when those fits are upon me, I lose all the pleasing notices and little intimations arising from rural sounds: and *May* is to me as silent and mute with respect to the notes of birds, &c. as *August*. My eyesight is, thank God, quick and good; but with respect to the other sense, I am, at times, disabled:

"And Wisdom at one entrance quite shut out."

LETTER XXIII.

TO THE SAME.

Selborne, June 8, 1775.

Dear Sir,

On *September* the 21st, 1741, being then on a visit, and intent on field-diversions, I rose before daybreak: when I came into the enclosures, I found the stubbles and clover-grounds matted all over with a thick coat of cobweb, in the meshes of which a copious and heavy dew hung so plentifully that the whole face of the country seemed, as it were, covered with two or three setting-nets drawn one over another. When the dogs attempted to hunt, their eyes were so blinded and hoodwinked that they could not proceed, but were obliged to lie down and scrape the incumbrances from their faces with their fore-feet, so that, finding my sport interrupted, I returned home musing in my mind on the oddness of the occurrence.

As the morning advanced the sun became bright and warm, and the day turned out one of those most lovely ones which no season but the autumn produces; cloudless, calm, serene, and worthy of the South of *France* itself.

About nine an appearance very unusual began to demand

our attention, a shower of cobwebs falling from very elevated regions, and continuing, without any interruption, till the close of the day. These webs were not single filmy threads, floating in the air in all directions, but perfect flakes or rags; some near an inch broad, and five or six long, which fell with a degree of velocity which shewed they were considerably heavier than the atmosphere.

On every side as the observer turned his eyes might he behold a continual succession of fresh flakes falling into his sight, and twinkling like stars as they turned their sides towards the sun.

How far this wonderful shower extended would be difficult to say; but we know that it reached *Bradley*, *Selborne*, and *Alresford*, three places which lie in a sort of a triangle, the shortest of whose sides is about eight miles in extent.

At the second of those places there was a gentleman (for whose veracity and intelligent turn we have the greatest veneration) who observed it the moment he got abroad; but concluded that, as soon as he came upon the hill above his house, where he took his morning rides, he should be higher than this meteor, which he imagined might have been blown, like *Thistle-down*, from the common above: but, to his great astonishment, when he rode to the most elevated part of the down, 300 feet above his fields, he found the webs in appearance still as much above him as before; still descending into sight in a constant succession, and twinkling in the sun, so as to draw the attention of the most incurious.

Neither before nor after was any such fall odserved; but on this day the flakes hung in the trees and hedges so thick, that a diligent person sent out might have gathered baskets full.

The remark that I shall make on these cobweb-like appearances, called *gossamer*, is, that, strange and superstitious as the notions about them were formerly, nobody in these days doubts but that they are the real production of small spiders, which swarm in the fields in fine weather in autumn, and have a power of shooting out webs from their tails so as to render themselves buoyant, and lighter than air. But why

these apterous insects should *that day* take such a wonderful aërial excursion, and why their webs should at once become so gross and material as to be considerably more weighty than air, and to descend with precipitation, is a matter beyond my skill. If I might be allowed to hazard a supposition, I should imagine that those filmy threads, when first shot, might be entangled in the rising dew, and so drawn up, spiders and all, by a brisk evaporation into the region where clouds are formed: and if the spiders have a power of coiling and thickening their webs in the air, as Dr. *Lister* says they have, [see his Letters to Mr. *Ray*] then, when they were become heavier than the air, they must fall.

Every day in fine weather, in autumn chiefly, do I see those spiders shooting out their webs and mounting aloft: they will go off from your finger if you will take them into your hand. Last summer one alighted on my book as I was reading in the parlour; and, running to the top of the page, and shooting out a web, took it's departure from thence. But what I most wondered at was, that it went off with considerable velocity in a place where no air was stirring; and I am sure that I did not assist it with my breath. So that these little crawlers seem to have, while mounting, some loco-motive power without the use of wings, and to move in the air faster than the air itself*.

* [The phenomenon of gossamer has engaged the especial attention of many observers since Gilbert White wrote the graphic description in the text. After the notice by Kirby and Spence in their admirable 'Introduction' (vol. i. letter xiii.), the subject has been repeatedly treated of by Mr. Blackwall, the well-known arachnologist, whose first paper appeared in the Linnean Transactions of 1827. In the 'Zoological Journal,' vol. v. is a further discussion by the same author, which is repeated in his book on British Spiders, published by the Ray Society. These treatises are well worth studying, although perhaps scarcely satisfactory. It appears clear, however, that the movements of the spider are guided by atmospheric causes, and that its ascent is due to the extreme tenuity of the web, and to the motion given to it by the air; and that if the connexion of the spider with the web be cut off, the insect falls to the ground, while the buoyant web continues its course under atmospheric impulse.—T. B.]

LETTER XXIV.

TO THE SAME.

Selborne, Aug. 15, 1775.

DEAR SIR,

THERE is a wonderful spirit of sociality in the brute creation, independent of sexual attachment: the congregating of gregarious birds in the winter is a remarkable instance.

Many horses, though quiet with company, will not stay one minute in a field by themselves: the strongest fences cannot restrain them. My neighbour's horse will not only not stay by himself abroad, but he will not bear to be left alone in a strange stable without discovering the utmost impatience, and endeavouring to break the rack and manger with his fore feet. He has been known to leap out at a stable-window, through which dung was thrown, after company; and yet in other respects is remarkably quiet. Oxen and cows will not fatten by themselves; but will neglect the finest pasture that is not recommended by society. It would be needless to instance in sheep, which constantly flock together.

But this propensity seems not to be confined to animals of the same species; for we know a doe still alive, that was brought up from a little fawn with a dairy of cows; with them it goes a-field, and with them it returns to the yard. The dogs of the house take no notice of this deer, being used to her; but, if strange dogs come by, a chase ensues; while the master smiles to see his favourite securely leading her pursuers over hedge, or gate, or stile, till she returns to the cows, who, with fierce lowings and menacing horns, drive the assailants quite out of the pasture.

Even great disparity of kind and size does not always prevent social advances and mutual fellowship. For a very intelligent and observant person has assured me that, in the former part of his life, keeping but one horse, he happened

also on a time to have but one solitary hen. These two incongruous animals spent much of their time together in a lonely orchard, where they saw no creature but each other. By degrees an apparent regard began to take place between these two sequestered individuals. The fowl would approach the quadruped with notes of complacency, rubbing herself gently against his legs: while the horse would look down with satisfaction, and move with the greatest caution and circumspection, lest he should trample on his diminutive companion. Thus, by mutual good offices, each seemed to console the vacant hours of the other: so that *Milton*, when he puts the following sentiment in the mouth of *Adam*, seems to be somewhat mistaken:

> "Much less can *bird* with *beast*, or fish with fowl,
> "So well converse, nor with the ox the ape."*

LETTER XXV.

TO THE SAME.

Selborne, Oct. 2, 1775.

Dear Sir,

We have two gangs or hordes of gypsies which infest the south and west of *England*, and come round in their circuit two or three times in the year. One of these tribes calls itself by the noble name of *Stanley*, of which I have nothing particular to say; but the other is distinguished by an appellative somewhat remarkable—As far as their harsh gibberish can be understood, they seem to say that the name of their clan is *Curleople;* now the termination of this word is apparently *Grecian:* and as *Mezeray* and the gravest historians all agree that these vagrants did certainly migrate from *Egypt*

* [Mr. Bennett has the following note on this letter in his edition:—"Barrington has inserted this letter in his 'Miscellanies,' p. 253, prefacing it thus:—'I shall here, on this head, subjoin part of a letter which I received from my often mentioned correspondent, the Rev. Mr. White, of Selborne, in Hampshire.'"—T. B.]

and the East, two or three centuries ago, and so spread by degrees over *Europe*, may not this name, a little corrupted, be the very name they brought with them from the *Levant?* It would be matter of some curiosity, could one meet with an intelligent person among them, to inquire whether, in their jargon, they still retain any *Greek* words: the *Greek* radicals will appear in hand, foot, head, water, earth, &c. It is possible that amidst their cant and corrupted dialect many mutilated remains of their native language might still be discovered.

With regard to those peculiar people, the gypsies, one thing is very remarkable, and especially as they came from warmer climates; and that is, that while other beggars lodge in barns, stables, and cow-houses, these sturdy savages seem to pride themselves in braving the severities of winter, and in living *sub dio* the whole year round. Last *September* was as wet a month as ever was known; and yet during those deluges did a young gypsy-girl lie-in in the midst of one of our hop-gardens, on the cold ground, with nothing over her but a piece of blanket extended on a few hazel-rods bent hoop-fashion, and stuck into the earth at each end, in circumstances too trying for a cow in the same condition: yet within this garden there was a large hop-kiln, into the chambers of which she might have retired, had she thought shelter an object worthy her attention.

Europe itself, it seems, cannot set bounds to the rovings of these vagabonds; for Mr. *Bell*, in his return from *Peking*, met a gang of these people on the confines of *Tartary*, who were endeavouring to penetrate those deserts and try their fortune in *China*.[k]

Gypsies are called in *French, Bohemiens;* in *Italian* and modern *Greek, Zingani.*

I am, &c.

[k] See Bell's Travels in China.

LETTER XXVI.

TO THE SAME.

Selborne, Nov. 1, 1775.

DEAR SIR,

"Hic - - - - tædæ pingues, hic plurimus ignis
"Semper, et assiduâ postes fuligine nigri."

I SHALL make no apology for troubling you with the detail of a very simple piece of domestic œconomy, being satisfied that you think nothing beneath your attention that tends to utility: the matter alluded to is the use of *rushes* instead of candles, which I am well aware prevails in many districts besides this; but as I know there are countries also where it does not obtain, and as I have considered the subject with some degree of exactness, I shall proceed in my humble story, and leave you to judge of the expediency.

The proper species of *rush* for this purpose seems to be the *juncus conglomeratus*, or common soft rush, which is to be found in most moist pastures, by the sides of streams, and under hedges. These rushes are in best condition in the height of summer; but may be gathered, so as to serve the purpose well, quite on to autumn. It would be needless to add that the largest and longest are best. Decayed labourers, women, and children, make it their business to procure and prepare them. As soon as they are cut they must be flung into water, and kept there; for otherwise they will dry and shrink, and the peel will not run. At first a person would find it no easy matter to divest a rush of it's peel or rind, so as to leave one regular, narrow, even rib from top to bottom that may support the pith: but this, like other feats, soon becomes familiar even to children; and we have seen an old woman, stone-blind, performing this business with great dispatch, and seldom failing to strip them with the nicest regularity.

When these *junci* are thus far prepared, they must lie out on the grass to be bleached, and take the dew for some nights, and afterwards be dried in the sun.

Some address is required in dipping these rushes in the scalding fat or grease; but this knack also is to be attained by practice. The careful wife of an industrious *Hampshire* labourer obtains all her fat for nothing; for she saves the scummings of her bacon-pot for this use; and, if the grease abounds with salt, she causes the salt to precipitate to the bottom, by setting the scummings in a warm oven. Where hogs are not much in use, and especially by the sea-side, the coarser animal oils will come very cheap. A pound of common grease may be procured for four pence; and about six pounds of grease will dip a pound of rushes; and one pound of rushes may be bought for one shilling: so that a pound of rushes, medicated and ready for use, will cost three shillings. If men that keep bees will mix a little wax with the grease, it will give it a consistency, and render it more cleanly, and make the rushes burn longer: mutton-suet would have the same effect.

A good rush, which measured in length two feet four inches and an half, being minuted, burnt only three minutes short of an hour: and a rush still of greater length has been known to burn one hour and a quarter.

These rushes give a good clear light. Watch-lights (coated with tallow,) it is true, shed a dismal one, "darkness visible;" but then the wicks of those have *two* ribs of the rind, or peel, to support the pith, while the wick of the dipped rush has but *one*. The *two* ribs are intended to impede the progress of the flame, and make the candle last.

In a pound of dry rushes, avoirdupois, which I caused to be weighed and numbered, we found upwards of one thousand six hundred individuals. Now suppose each of these burns, one with another, only half an hour, then a poor man will purchase eight hundred hours of light, a time exceeding thirty-three entire days, for three shillings. According to this account each rush, before dipping, costs $\frac{1}{33}$ of a farthing, and $\frac{1}{11}$ afterwards. Thus a poor family will enjoy $5\frac{1}{2}$ hours

of comfortable light for a farthing. An experienced old housekeeper assures me that one pound and an half of rushes completely supplies his family the year round, since working people burn no candle in the long days, because they rise and go to bed by daylight.

Little farmers use rushes much in the short days, both morning and evening in the dairy and kitchen; but the very poor, who are always the worst œconomists, and therefore must continue very poor, buy an halfpenny candle every evening, which, in their blowing open rooms, does not burn much more than two hours. Thus have they only two hours light for their money instead of eleven*.

While on the subject of rural œconomy, it may not be improper to mention a pretty implement of housewifery that we have seen no where else; that is, little neat besoms which our foresters make from the stalk of the *polytricum commune*, or *great golden maiden-hair*, which they call *silk-wood*, and find plenty in the bogs. When this moss is well combed and dressed, and divested of it's outer skin, it becomes of a beautiful bright chestnut colour; and, being soft and pliant, is very proper for the dusting of beds, curtains, carpets, hangings, &c. If these besoms were known to the brushmakers in town, it is probable they might come much in use for the purpose above-mentioned.[1]

I am, &c.

* [The following extract from the act of Parliament imposing an excise duty on candles (8th and 9th of Queen Anne) is directly applicable to the custom so particularly described in this letter:—"N.B.—Small rushlights as shall be made by any person to be used in their own houses only, so as none of them be made for sale, and so as such &c. be only once dipped in or once drawn through grease or kitchen-stuff, and not at all through any tallow melted or refined, shall not be chargeable." The rush-burners are now quite obsolete. I have one in my possession; and there is one in the museum at Kew Gardens, which I sent thither several years ago. The Rev. Mr. Howard of Blackmoor has one of them; and there may possibly be some still hoarded in the cottages as relics of a former custom; but their use has long been a thing of the past.—T. B.]

[1] A besom of this sort is to be seen in Sir *Ashton Lever's* Museum.

LETTER XXVII.

TO THE SAME.

Selborne, Dec. 12, 1775.

Dear Sir,

We had in this village more than twenty years ago an idiot-boy, whom I well remember, who, from a child, shewed a strong propensity to bees; they were his food, his amusement, his sole object. And as people of this cast have seldom more than one point in view, so this lad exerted all his few faculties on this one pursuit. In the winter he dosed away his time, within his father's house, by the fire-side, in a kind of torpid state, seldom departing from the chimney-corner; but in the summer he was all alert, and in quest of his game in the fields, and on sunny banks. Honey-bees, humble-bees, and wasps, were his prey wherever he found them: he had no apprehensions from their stings, but would seize them *nudis manibus*, and at once disarm them of their weapons, and suck their bodies for the sake of their honey-bags. Sometimes he would fill his bosom between his shirt and his skin with a number of these captives; and sometimes would confine them in bottles. He was a very *merops apiaster*, or *bee-bird;* and very injurious to men that kept bees; for he would slide into their bee-gardens, and, sitting down before the stools, would rap with his finger on the hives, and so take the bees as they came out. He has been known to overturn hives for the sake of honey, of which he was passionately fond. Where metheglin was making he would linger round the tubs and vessels, begging a draught of what he called *bee-wine*. As he ran about he used to make a humming noise with his lips, resembling the buzzing of bees. This lad was lean and sallow, and of a cadaverous complexion; and, except in his favourite pursuit, in which he was wonderfully adroit, discovered no manner of understanding. Had his capacity been

better, and directed to the same object, he had perhaps abated much of our wonder at the feats of a more modern exhibiter of bees; and we may justly say of him now,

"— — — — — — — — Thou,
"Had thy presiding star propitious shone,
"Should'st *Wildman* be — — — —."

When a tall youth he was removed from hence to a distant village, where he died, as I understand, before he arrived at manhood.

I am, &c.

LETTER XXVIII.

TO THE SAME.

Selborne, Jan. 8, 1776.

Dear Sir,

It is the hardest thing in the world to shake off superstitious prejudices: they are sucked in as it were with our mother's milk; and growing up with us at a time when they take the fastest hold and make the most lasting impressions, become so interwoven into our very constitutions, that the strongest good sense is required to disengage ourselves from them. No wonder therefore that the lower people retain them their whole lives through, since their minds are not invigorated by a liberal education, and therefore not enabled to make any efforts adequate to the occasion.

Such a preamble seems to be necessary before we enter on the superstitions of this district, lest we should be suspected of exaggeration in a recital of practices too gross for this enlightened age.

But the people of *Tring*, in *Hertfordshire*, would do well to remember, that no longer ago than the year 1751, and within twenty miles of the capital, they seized on two superannuated wretches, crazed with age, and overwhelmed with infirmities, on a suspicion of witchcraft; and, by trying experiments, drowned them in a horse-pond.

In a farm-yard near the middle of this village stands, at this day, a row of pollard-ashes, which, by the seams and long cicatrices down their sides, manifestly show that, in former times, they have been cleft asunder. These trees, when young and flexible, were severed and held open by wedges, while ruptured children, stripped naked, were pushed through the apertures, under a persuasion that, by such a process, the poor babes would be cured of their infirmity. As soon as the operation was over, the tree, in the suffering part, was plastered with loam, and carefully swathed up. If the parts coalesced and soldered together, as usually fell out, where the feat was performed with any adroitness at all, the party was cured; but, where the cleft continued to gape, the operation, it was supposed, would prove ineffectual. Having occasion to enlarge my garden not long since, I cut down two or three such trees, one of which did not grow together.

We have several persons now living in the village, who, in their childhood, were supposed to be healed by this superstitious ceremony, derived down perhaps from our *Saxon* ancestors, who practised it before their conversion to Christianity.

At the south corner of the *Plestor*, or area, near the church, there stood, about twenty years ago, a very old grotesque hollow pollard-ash, which for ages had been looked on with no small veneration as a *shrew-ash*. Now a shrew-ash is an ash whose twigs or branches, when gently applied to the limbs of cattle, will immediately relieve the pains which a beast suffers from the running of a *shrew-mouse* over the part affected: for it is supposed that a shrew-mouse is of so baneful and deleterious a nature, that wherever it creeps over a beast, be it horse, cow, or sheep, the suffering animal is afflicted with cruel anguish, and threatened with the loss of the use of the limb. Against this accident, to which they were continually liable, our provident fore-fathers always kept a shrew-ash at hand, which, when once medicated, would maintain it's virtue for ever. A shrew-ash was made thus:[m]—Into the body of the tree a deep hole was bored with an auger, and a poor devoted shrew-mouse was thrust in alive, and plugged in, no

[m] For a similar practice, see *Plot's Staffordshire.*

doubt, with several quaint incantations long since forgotten. As the ceremonies necessary for such a consecration are no longer understood, all succession is at an end, and no such tree is known to subsist in the manor, or hundred.

As to that on the *Plestor*,

"The late vicar stubb'd and burnt it,"

when he was way-warden, regardless of the remonstrances of the by-standers, who interceded in vain for it's preservation, urging it's power and efficacy, and alleging that it had been

"Religione patrum multos servata per annos"*.

I am, &c.

LETTER XXIX.

TO THE SAME.

Selborne, Feb. 7, 1776.

Dear Sir,

In heavy fogs, on elevated situations especially, trees are per-

* [The superstitions mentioned in the text have long ceased to exist; and the legitimate results of a more general and rational education have been in no respect more manifest than in the removal of such credulity from the minds of the poorer classes. But when I first became acquainted with Selborne, between 30 and 40 years ago, there were still many remains of ancient superstitious absurdities devoutly retained as a part of the popular creed. I remember a worthy and even kindly old man cutting off the feet of a mole, and hanging them in a little bag round the neck of a child, with the object of curing the "king's evil," as it was called, and then letting the poor victim go, with the full conviction that as the maimed animal gradually died the child would be, *pari passu*, cured. The necessity of keeping perfectly clean and bright any instrument by which man or beast had been wounded, in order to avoid inflammation in the wounded part, and to ensure a cure, was as carefully attended to as it is represented in Wilkie's well-known admirable picture of "The Cut Finger." When the late Mr. Tindall came to the vicarage of Empshott, about 30 years ago, he was assured by his housekeeper that the "fairies danced every night on Wolmer Common." Many equally amusing instances of Selbornian bygone superstitions might be enumerated.—T. B.]

fect alembics: and no one that has not attended to such matters can imagine how much water one tree will distil in a night's time by condensing the vapour, which trickles down the twigs and boughs, so as to make the ground below quite in a float. In *Newton-lane*, in *October* 1775, on a misty day, a particular oak in leaf dropped so fast that the cart-way stood in puddles and the ruts ran with water, though the ground in general was dusty.

In some of our smaller islands in the *West-Indies*, if I mistake not, there are no springs or rivers; but the people are supplied with that necessary element, water, merely by the dripping of some large tall trees, which, standing in the bosom of a mountain, keep their heads constantly enveloped with fogs and clouds, from which they dispense their kindly never-ceasing moisture; and so render those districts habitable by condensation alone.

Trees in leaf have such a vast proportion more of surface than those that are naked, that, in theory, their condensations should greatly exceed those that are stripped of their leaves; but, as the former *imbibe* also a great quantity of moisture, it is difficult to say which drip most: but this I know, that deciduous trees that are entwined with much ivy seem to distil the greatest quantity. Ivy-leaves are smooth, and thick, and cold, and therefore condense very fast; and besides evergreens imbibe very little. These facts may furnish the intelligent with hints concerning what sorts of trees they should plant round small ponds that they would wish to be perennial; and shew them how advantageous some trees are in preference to others.

Trees perspire profusely, condense largely, and check evaporation so much, that woods are always moist: no wonder therefore that they contribute much to pools and streams.

That trees are great promoters of lakes and rivers appears from a well known fact in *North-America;* for, since he woods and forests have been grubbed and cleared, all bodies of water are much diminished; so that some streams, that were very considerable a century ago, will not now drive a common

mill.[n] Besides, most woodlands, forests, and chases, with us abound with pools and morasses; no doubt for the reason given above.

To a thinking mind few phenomena are more strange than the state of little ponds on the summits of chalk-hills, many of which are never dry in the most trying droughts of summer. On *chalk-hills* I say, because in many rocky and gravelly soils springs usually break out pretty high on the sides of elevated grounds and mountains; but no person acquainted with chalky districts will allow that they ever saw springs in such a soil but in vallies and bottoms, since the waters of so pervious a stratum as chalk all lie on one dead level, as well-diggers have assured me again and again.

Now we have many such little round ponds in this district; and one in particular on our sheep-down, three hundred feet above my house; which, though never above three feet deep in the middle, and not more than thirty feet in diameter, and containing perhaps not more than two or three hundred hogsheads of water, yet never is known to fail, though it affords drink for three hundred or four hundred sheep, and for at least twenty head of large cattle beside. This pond, it is true, is over-hung with two moderate beeches *, that, doubtless, at times afford it much supply: but then we have others as small, that, without the aid of trees, and in spite of evaporation from sun and wind, and perpetual consumption by cattle, yet constantly maintain a moderate share of water, without overflowing in the wettest seasons, as they would do if supplied by springs. By my journal of *May* 1775, it appears that "the small and even considerable ponds in the vales are "now dried up, while the small ponds on the very tops of "hills are but little affected." Can this difference be accounted for from evaporation alone, which certainly is more

[n] Vide *Kalm's* Travels to *North-America*.

* [One of the identical beeches here referred to was, for at least 50 or 60 years, leaning at a considerable angle over the pond, and has fallen prone into the water only very recently. It was not a large tree; it had become somewhat decayed, but retained its leafy head until it fell uprooted.—T. B.]

prevalent in bottoms? or rather have not those elevated pools some unnoticed recruits, which in the night time counterbalance the waste of the day; without which the cattle alone must soon exhaust them? And here it will be necessary to enter more minutely into the cause. Dr. *Hales*, in his Vegetable Statics, advances, from experiment, that "the moister "the earth is the more dew falls on it in a night: and more "than a *double* quantity of dew falls on a surface of *water* "than there does on an equal surface of moist earth." Hence we see that water, by it's coolness, is enabled to assimilate to itself a large quantity of moisture nightly by condensation; and that the air, when loaded with fogs and vapours, and even with copious dews, can alone advance a considerable and never-failing resource. Persons that are much abroad, and travel early and late; such as shepherds, fishermen, &c. can tell what prodigious fogs prevail in the night on elevated downs, even in the hottest parts of summer; and how much the surfaces of things are drenched by those swimming vapours, though, to the senses, all the while, little moisture seems to fall.

I am, &c.

LETTER XXX.

TO THE SAME.

Selborne, April 3, 1776.

Dear Sir,

Monsieur Herissant, a *French* anatomist, seems persuaded that he has discovered the reason why cuckoos do not hatch their own eggs; the impediment, he supposes, arises from the internal structure of their parts, which incapacitates them for incubation. According to this gentleman, the crop or craw of a cuckoo does not lie before the sternum at the bottom of the neck, as in the *gallinæ*, *columbæ*, &c. but immediately behind it, on and over the bowels, so as to make a large protuberance in the belly.[o]

[o] *Histoire de l'Académie Royale*, 1752.

Induced by this assertion, we procured a cuckoo; and, cutting open the breast-bone, and exposing the intestines to sight, found the crop lying as mentioned above. This stomach was large and round, and stuffed hard like a pincushion with food, which, upon nice examination, we found to consist of various insects; such as small scarabs, spiders, and dragon-flies; the last of which we have seen cuckoos catching on the wing as they were just emerging out of the aurelia state. Among this farrago also were to be seen maggots, and many seeds, which belonged either to gooseberries, currants, cranberries, or some such fruit; so that these birds apparently subsist on insects and fruits: nor was there the least appearance of bones, feathers, or fur to support the idle notion of their being birds of prey.

The sternum in this bird seemed to us to be remarkably short, between which and the anus lay the crop, or craw, and immediately behind that the bowels against the back-bone.

It must be allowed as this anatomist observes, that the crop placed just upon the bowels must, especially when full, be in a very uneasy situation during the business of incubation; yet the test will be to examine whether birds that are actually known to sit for certain are not formed in a similar manner. This inquiry I proposed to myself to make with a *fern-owl*, or goatsucker, as soon as opportunity offered: because, if their formation proves the same, the reason for incapacity in the cuckoo will be allowed to have been taken up somewhat hastily.

Not long after a fern-owl was procured, which, from it's habit and shape, we suspected might resemble the cuckoo in it's internal construction. Nor were our suspicions ill-grounded; for, upon the dissection, the crop, or craw, also lay behind the sternum, immediately on the viscera, between them and the skin of the belly. It was bulky, and stuffed hard with large *phalænæ*, moths of several sorts, and their eggs, which no doubt had been forced out of those insects by the action of swallowing.

Now as it appears that this bird, which is so well known to practise incubation, is formed in a similar manner with

cuckoos, Monsieur *Herissant's* conjecture, that cuckoos are incapable of incubation from the disposition of their intestines, seems to fall to the ground: and we are still at a loss for the cause of that strange and singular peculiarity in the instance of the *cuculus canorus*.

We found the case to be the same with the ring-tail hawk, in respect to formation; and, as far as I can recollect, with the swift; and probably it is so with many more sorts of birds that are not granivorous.

I am, &c.

LETTER XXXI.

TO THE SAME.

Selborne, April 29, 1776.

Dear Sir,

On *August* the 4th, 1775, we surprised a large viper, which seemed very heavy and bloated, as it lay in the grass basking in the sun. When we came to cut it up, we found that the abdomen was crowded with young, fifteen in number; the shortest of which measured full seven inches, and were about the size of full-grown earth-worms. This little fry issued into the world with the true viper-spirit about them, shewing great alertness as soon as disengaged from the belly of the dam: they twisted and wriggled about, and set themselves up, and gaped very wide when touched with a stick, shewing manifest tokens of menace and defiance, though as yet they had no manner of fangs that we could find, even with the help of our glasses.

To a thinking mind nothing is more wonderful than that early instinct which impresses young animals with the notion of the situation of their natural weapons, and of using them properly in their own defence, even before those weapons subsist or are formed. Thus a young cock will spar at his adversary before his spurs are grown; and a calf or a lamb will push with their heads before their horns are sprouted.

In the same manner did these young adders attempt to bite before their fangs were in being. The dam however was furnished with very formidable ones, which we lifted up (for they fold down when not used) and cut them off with the point of our scissars.

There was little room to suppose that this brood had ever been in the open air before; and that they were taken in for refuge, at the mouth of the dam, when she perceived that danger was approaching; because then probably we should have found them somewhere in the neck, and not in the abdomen.

LETTER XXXII.

TO THE SAME.

CASTRATION has a strange effect: it emasculates both man, beast, and bird, and brings them to a near resemblance of the other sex. Thus eunuchs have smooth unmuscular arms, thighs and legs; and broad hips, and beardless chins, and squeaking voices. Gelt-stags and bucks have hornless heads, like hinds and does. Thus wethers have small horns, like ewes; and oxen large bent horns, and hoarse voices when they low, like cows: for bulls have short straight horns; and though they mutter and grumble in a deep tremendous tone, yet they low in a shrill high key. Capons have small combs and gills, and look pallid about the head, like pullets; they also walk without any parade, and hover chickens like hens. Barrow-hogs have also small tusks like sows.

Thus far it is plain that the deprivation of *masculine vigour* puts a stop to the growth of those parts or appendages that are looked upon as it's insignia. But the ingenious Mr. *Lisle*, in his book on husbandry, carries it much farther; for he says that the loss of those insignia alone has sometimes a strange effect on the ability itself: he had a boar so fierce and venereous, that, to prevent mischief, orders were given for his

tusks to be broken off. No sooner had the beast suffered this injury than his powers forsook him, and he neglected those females to whom before he was passionately attached, and from whom no fences could restrain him.

LETTER XXXIII.

TO THE SAME.

THE natural term of an hog's life is little known, and the reason is plain—because it is neither profitable nor convenient to keep that turbulent animal to the full extent of it's time: however, my neighbour, a man of substance, who had no occasion to study every little advantage to a nicety, kept an half bred Bantam-sow, who was as thick as she was long, and whose belly swept on the ground till she was advanced to her seventeenth year; at which period she shewed some tokens of age by the decay of her teeth and the decline of her fertility.

For about ten years this prolific mother produced two litters in the year of about ten at a time, and once above twenty at a litter; but, as there were near double the number of pigs to that of teats many died. From long experience in the world this female was grown very sagacious and artful: —when she found occasion to converse with a boar she used to open all the intervening gates, and march, by herself, up to a distant farm where one was kept; and when her purpose was served would return by the same means. At the age of about fifteen her litters began to be reduced to four or five; and such a litter she exhibited when in her fatting-pen. She proved, when fat, good bacon, juicy, and tender; the rind, or sward, was remarkably thin. At a moderate computation she was allowed to have been the fruitful parent of three hundred pigs: a prodigious instance of fecundity in so large a quadruped! She was killed in spring 1775.

I am, &c.

LETTER XXXIV.

TO THE SAME.

Selborne, May 9, 1776.

DEAR SIR,

"— — — — — admorunt ubera tigres."

WE have remarked in a former letter how much incongruous animals, in a lonely state, may be attached to each other from a spirit of sociality; in this it may not be amiss to recount a different motive which has been known to create as strange a fondness.

My friend had a little helpless *leveret* brought to him, which the servants fed with milk in a spoon, and about the same time his cat kittened and the young were dispatched and buried. The hare was soon lost, and supposed to be gone the way of most fondlings, to be killed by some dog or cat. However, in about a fortnight, as the master was sitting in his garden in the dusk of the evening, he observed his cat, with tail erect, trotting towards him, and calling with little short inward notes of complacency, such as they use towards their kittens, and something gamboling after, which proved to be the leveret that the cat had supported with her milk, and continued to support with great affection.

Thus was a graminivorous animal nurtured by a carnivorous and predaceous one!

Why so cruel and sanguinary a beast as a cat, of the ferocious genus of *Feles*, the *murium leo*, as *Linnæus* calls it, should be affected with any tenderness towards an animal which is it's natural prey, is not so easy to determine.

This strange affection probably was occasioned by that desiderium, those tender maternal feelings, which the loss of her kittens had awakened in her breast; and by the complacency and ease she derived to herself from the procuring her teats to be drawn, which were too much distended with milk, till,

from habit, she become as much delighted with this foundling as if it had been her real offspring.

This incident is no bad solution of that strange circumstance which grave historians as well as the poets assert, of exposed children being sometimes nurtured by female wild beasts that probably had lost their young. For it is not one whit more marvellous that *Romulus* and *Remus*, in their infant state, should be nursed by a she-wolf, than that a poor little sucking leveret should be fostered and cherished by a bloody grimalkin.

— — — — "viridi fœtam Mavortis in antro
"Procubuisse lupam: geminos huic ubera circum
"Ludere pendentes pueros, et lambere matrem
"Impavidos: illam tereti cervice reflexam
"Mulcere alternos, et corpora fingere linguâ."

LETTER XXXV.

TO THE SAME.

Selborne, May 20, 1770.

Dear Sir,

Lands that are subject to frequent inundations are always poor; and probably the reason may be because the worms are drowned. The most insignificant insects and reptiles are of much more consequence, and have much more influence in the œconomy of Nature, than the incurious are aware of; and are mighty in their effect, from their minuteness, which renders them less an object of attention; and from their numbers and fecundity. Earth-worms, though in appearance a small and despicable link in the chain of Nature, yet, if lost, would make a lamentable chasm. For, to say nothing of half the birds, and some quadrupeds which are almost entirely supported by them, worms seem to be the great promoters of vegetation, which would proceed but lamely without them, by boring, perforating, and loosening the soil, and rendering it pervious to rains and the fibres of plants, by drawing straws

and stalks of leaves and twigs into it; and, most of all, by throwing up such infinite numbers of lumps of earth called worm-casts, which, being their excrement, is a fine manure for grain and grass. Worms probably provide new soil for hills and slopes where the rain washes the earth away; and they affect slopes, probably to avoid being flooded. Gardeners and farmers express their detestation of worms; the former because they render their walks unsightly, and make them much work: and the latter because, as they think, worms eat their green corn. But these men would find that the earth without worms would soon become cold, hard-bound, and void of fermentation; and consequently steril: and besides, in favour of worms, it should be hinted that green corn, plants, and flowers, are not so much injured by them as by many species of *coleoptera* (scarabs), and *tipulæ*, (long-legs) in their larva, or grub-state; and by unnoticed myriads of small shell-less snails, called slugs, which silently and imperceptibly make amazing havock in the field and garden.[q]

These hints we think proper to throw out in order to set the inquisitive and discerning to work*.

A good monography of worms would afford much entertainment and information at the same time, and would open a large and new field in natural history. Worms work most

[q] Farmer *Young*, of *Norton-farm*, says that this spring (1777) about four acres of his wheat in one field was entirely destroyed by *slugs*, which swarmed on the blades of corn, and devoured it as fast as it sprang.

* [The important functions performed by earthworms so sensibly suggested in the text formed the subject of an elaborate and interesting paper by Mr. Darwin, which was published in the Transactions of the Geological Society (ser. 2, vol. v. p. 505), in which he shows that these despised creatures are instrumental in comminuting the soil, and producing a superficial bed above the previous surface, and forming a layer of mould perfectly prepared for vegetable growth. The rate at which this layer of new soil is formed may be guessed at from some of the facts stated by Mr. Darwin. In one case, in a field which had been reclaimed from waste land, 3 inches depth of mould had been prepared by the worms in 15 years; and in another, within a period of less than 80 years, the earthworms covered the marl with a bed of earth of no less than 12 or 13 inches.—T. B.]

in the spring; but by no means lie torpid in the dead months; are out every mild night in the winter, as any person may be convinced that will take the pains to examine his grass-plots with a candle; are hermaphrodites, and much addicted to venery, and consequently very prolific.

I am, &c.

LETTER XXXVI.*

TO THE SAME.

Selborne, Nov. 22, 1777.

Dear Sir,

You cannot but remember that the twenty-sixth and twenty-seventh of last *March* were very hot days; so sultry that every body complained and were restless under those sensations to which they had not been reconciled by gradual approaches.

This sudden summer-like heat was attended by many summer coincidences; for on those two days the thermometer rose to sixty-six in the shade; many species of insects revived and came forth; some bees swarmed in this neighbourhood; the old tortoise, near *Lewes* in *Sussex*, awakened and came forth out of it's dormitory; and, what is most to my present purpose, many *house-swallows* appeared and were very alert in many places, and particularly at *Cobham*, in *Surrey*.

But as that short warm period was succeeded as well as preceded by harsh severe weather, with frequent frosts and ice, and cutting winds, the insects withdrew, the tortoise retired again into the ground, and the swallows were seen no more until the tenth of *April*, when, the rigour of the spring abating, a softer season began to prevail.

Again; it appears by my journals for many years past,

* [To this letter Mr. Bennett has the following note. "This letter was first printed in Barrington's 'Miscellanies' (1781), p. 225. 'I shall here,' he says, 'subjoin a letter which I have received from that ingenious and observant naturalist, the Rev. Mr. White, of Selborne, Hampshire.' —E. T. B."]

that *house-martins* retire, to a bird, about the beginning of *October*; so that a person not very observant of such matters would conclude that they had taken their last farewell: but then it may be seen in my diaries also that considerable flocks have discovered themselves again in the first week of *November*, and often on the fourth day of that month only *for one day;* and that not as if they were in actual migration, but playing about at their leisure and feeding calmly, as if no enterprize of moment at all agitated their spirits. And this was the case in the beginning of this very month; for, on the fourth of *November*, more than twenty house-martins, which, in appearance, had all departed about the seventh of *October*, were seen again, for that *one morning only*, sporting between my fields and *the Hanger*, and feasting on insects which swarmed in that sheltered district. The preceding day was wet and blustering, but the fourth was dark and mild, and soft, the wind at south-west, and the thermometer at 58′½; a pitch not common at that season of the year. Moreover, it may not be amiss to add in this place, that whenever the thermometer is above 50 the bat comes flitting out in every autumnal and winter month *.

From all these circumstances laid together, it is obvious that torpid insects, reptiles, and quadrupeds, are awakened from their profoundest slumbers by a little untimely warmth; and therefore that nothing so much promotes this death-like stupor as a defect of heat. And farther, it is reasonable to suppose that two whole species, or at least many individuals of those two species, of *British hirundines*, do never leave this island at all, but partake of the same benumbed state: for we cannot suppose that, after a month's absence, house-martins can return from southern regions to appear for *one* morning in *November*, or that house-swallows should leave the districts of *Africa* to enjoy, in *March*, the transient summer of a *couple* of days.

I am, &c.

* [I have seen the Pipistrelle, the commonest of our bats, flying in every month in the year; and whenever gnats are tempted to come forth, the bat is sure to follow for a meal.—T. B.]

LETTER XXXVII.

TO THE SAME.

Selborne, Jan. 8, 1778.

Dear Sir,

There was in this village several years ago a miserable pauper, who, from his birth, was afflicted with a leprosy, as far as we are aware of a singular kind, since it affected only the palms of his hands and the soles of his feet. This scaly eruption usually broke out twice in the year, at the spring and fall; and, by peeling away, left the skin so thin and tender that neither his hands or feet were able to perform their functions; so that the poor object was half his time on crutches, incapable of employ, and languishing in a tiresome state of indolence and inactivity. His habit was lean, lank, and cadaverous. In this sad plight he dragged on a miserable existence, a burden to himself and his parish, which was obliged to support him till he was relieved by death at more than thirty years of age.

The good women, who love to account for every defect in children by the doctrine of longing, said that his mother felt a violent propensity for oysters, which she was unable to gratify; and that the black rough scurf on his hands and feet were the shells of that fish. We knew his parents, neither of which were lepers; his father in particular lived to be far advanced in years.

In all ages the leprosy has made dreadful havock among mankind. The *Israelites* seem to have been greatly afflicted with it from the most remote times; as appears from the peculiar and repeated injunctions given them in the *Levitical* law.[r] Nor was the rancour of this foul disorder much abated in the last period of their commonwealth, as may be seen in many passages of the New Testament.

[r] See Leviticus, chap. xiii. and xiv.

Some centuries ago this horrible distemper prevailed all *Europe* over; and our forefathers were by no means exempt, as appears by the large provision made for objects labouring under this calamity. There was an hospital for female lepers in the diocese of *Lincoln*, a noble one near *Durham*, three in *London* and *Southwark*, and perhaps many more in or near our great towns and cities. Moreover, some crowned heads, and other wealthy and charitable personages, bequeathed large legacies to such poor people as languished under this hopeless infirmity.

It must therefore, in these days, be, to an humane and thinking person, a matter of equal wonder and satisfaction, when he contemplates how nearly this pest is eradicated, and observes that a leper now is a rare sight. He will, moreover, when engaged in such a train of thought, naturally enquire for the reason. This happy change perhaps may have originated and been continued from the much smaller quantity of salted meat and fish now eaten in these kingdoms; from the use of linen next the skin; from the plenty of better bread; and from the profusion of fruits, roots, legumes, and greens, so common in every family. Three or four centuries ago, before there were any enclosures, sown-grasses, field-turnips, or field-carrots, or hay, all the cattle which had grown fat in summer, and were not killed for winter-use, were turned out soon after *Michaelmas* to shift as they could through the dead months; so that no fresh meat could be had in winter or spring. Hence the marvellous account of the vast stores of salted flesh found in the larder of the eldest *Spencer*[8] in the days of *Edward* the Second, even so late in the spring as the third of *May*. It was from magazines like these that the turbulent barons supported in idleness their riotous swarms of retainers ready for any disorder or mischief. But agriculture is now arrived at such a pitch of perfection, that our best and fattest meats are killed in the winter; and no man need eat salted flesh, unless he prefers it, that has money to buy fresh.

[8] *Viz.* Six hundred bacons, eighty carcasses of beef, and six hundred muttons.

One cause of this distemper might be, no doubt, the quantity of wretched fresh and salt fish consumed by the commonalty at all seasons as well as in lent; which our poor now would hardly be persuaded to touch.

The use of linen changes, shirts or shifts, in the room of sordid and filthy woollen, long worn next the skin, is a matter of neatness comparatively modern; but must prove a great means of preventing cutaneous ails. At this very time woollen instead of linen prevails among the poorer *Welch*, who are subject to foul eruptions.

The plenty of good wheaten bread that now is found among all ranks of people in the south, instead of that miserable sort which used in old days to be made of barley or beans, may contribute not a little to the sweetening their blood and correcting their juices; for the inhabitants of mountainous districts, to this day, are still liable to the itch and other cutaneous disorders, from a wretchedness and poverty of diet.

As to the produce of a garden, every middle-aged person of observation may perceive, within his own memory, both in town and country, how vastly the consumption of vegetables is increased. Green-stalls in cities now support multitudes in a comfortable state, while gardeners get fortunes. Every decent labourer also has his garden, which is half his support, as well as his delight; and common farmers provide plenty of beans, peas, and greens, for their hinds to eat with their bacon; and those few that do not are despised for their sordid parsimony, and looked upon as regardless of the welfare of their dependants. Potatoes have prevailed in this little district, by means of premiums, within these twenty years only; and are much esteemed here now by the poor, who would scarce have ventured to taste them in the last reign.

Our *Saxon* ancestors certainly had some sort of cabbage, because they call the month of *February sprout-cale;* but, long after their days, the cultivation of gardens was little attended to. The religious, being men of leisure, and keeping up a constant correspondence with *Italy*, were the first people among us that had gardens and fruit-trees in any perfection,

within the walls of their abbies[t] and priories. The *barons* neglected every pursuit that did not lead to war or tend to the pleasure of the chase.

It was not till gentlemen took up the study of horticulture themselves that the knowledge of gardening made such hasty advances. Lord *Cobham*, Lord *Ila*, and Mr. *Waller* of *Beaconsfield*, were some of the first people of rank that promoted the elegant science of ornamenting without despising the superintendeuce of the kitchen quarters and fruit walls.

A remark made by the excellent Mr. *Ray* in his Tour of *Europe* at once surprises us, and corroborates what has been advanced above; for we find him observing, so late as his days, that "the *Italians* use several herbs for sallets, which "*are not yet* or have not been but *lately* used in *England*, viz. "*selleri** (celery) which is nothing else but the sweet small-"age; the young shoots whereof, with a little of the head of "the root cut off, they eat raw with oil and pepper." And farther he adds "*curled endive* blanched is much used beyond "seas; and, for a raw sallet, seemed to excel lettuce itself." Now this journey was undertaken no longer ago than in the year 1663.

I am, &c.

[t] "In *monasteries* the lamp of knowledge continued to burn, however "dimly. In them men of business were formed for the state: the art of "writing was cultivated by the *monks;* they were the only proficients in "mechanics, *gardening*, and architecture."——See *Dalrymple's* Annals of *Scotland.*

* [White, in his Garden Kalendar for 1759, adopts the spelling *celeri.*—T. B.]

LETTER XXXVIII.

TO THE SAME.

"Fortè puer, comitum seductus ab agmine fido,
"Dixerat, ecquis adest? et, adest, responderat echo.
"Hic stupet; utque aciem partes divisit in omnes;
"Voce, veni, clamat magnâ. Vocat illa vocantem."

Selborne, Feb. 12, 1778.

Dear Sir,

In a district so diversified as this, so full of hollow vales, and hanging woods, it is no wonder that echoes should abound. Many we have discovered that return the cry of a pack of dogs, the notes of a hunting-horn, a tunable ring of bells, or the melody of birds, very agreeably: but we were still at a loss for a polysyllabical, articulate echo, till a young gentleman, who had parted from his company in a summer evening walk, and was calling after them, stumbled upon a very curious one in a spot where it might least be expected. At first he was much surprised, and could not be persuaded but that he was mocked by some boy; but, repeating his trials in several languages, and finding his respondent to be a very adroit polyglot, he then discerned the deception.

This echo in an evening, before rural noises cease, would repeat ten syllables most articulately and distinctly, especially if quick dactyls were chosen. The last syllables of

"Tityre, tu patulæ recubans - - -"

were as audibly and intelligibly returned as the first: and there is no doubt, could trial have been made, but that at midnight, when the air is very elastic, and a dead stillness prevails, one or two syllables more might have been obtained; but the distance rendered so late an experiment very inconvenient.

Quick dactyls, we observed, succeeded best; for when we

came to try it's powers in slow, heavy, embarrassed spondees of the same number of syllables,

"Monstrum horrendum, informe, ingens - - -"

we could perceive a return but of four or five.

All echoes have some one place to which they are returned stronger and more distinct than to any other; and that is always the place that lies at right angles with the object of repercussion, and is not too near, nor too far off. Buildings, or naked rocks, re-echo much more articulately than hanging wood or vales; because in the latter the voice is as it were entangled, and embarrassed in the covert, and weakened in the rebound.

The true object of this echo, as we found by various experiments, is the stone-built, tiled hop-kiln in *Gally-Lane*, which measures in front 40 feet, and from the ground to the eaves 12 feet. The true *centrum phonicum*, or just distance, is one particular spot in the *King's-field*, in the path to *Nore-hill*, on the very brink of the steep balk above the hollow cart way. In this case there is no choice of distance; but the path, by meer contingency, happens to be the lucky, the identical spot, because the ground rises or falls so immediately, if the speaker either retires or advances, that his mouth would at once be above or below the object.

We measured this polysyllabical echo with great exactness, and found the distance to fall very short of Dr. *Plot's* rule for distinct articulation: for the Doctor, in his history of *Oxfordshire*, allows 120 feet for the return of each syllable distinctly: hence this echo, which gives ten distinct syllables, ought to measure 400 yards, or 120 feet to each syllable; whereas our distance is only 258 yards, or near 75 feet, to each syllable. Thus our measure falls short of the Doctor's, as five to eight: but then it must be acknowledged that this candid philosopher was convinced afterwards, that some latitude must be admitted of in the distance of echoes according to time and place.

When experiments of this sort are making, it should always be remembered that weather and the time of day have a vast influence on an echo; for a dull, heavy, moist air deadens and

clogs the sound; and hot sunshine renders the air thin and weak, and deprives it of all it's springiness; and a ruffling wind quite defeats the whole. In a still, clear, dewy evening the air is most elastic; and perhaps the later the hour the more so.

Echo has always been so amusing to the imagination, that the poets have personified her; and in their hands she has been the occasion of many a beautiful fiction. Nor need the gravest man be ashamed to appear taken with such a phænomenon, since it may become the subject of philosophical or mathematical inquiries.

One should have imagined that echoes, if not entertaining, must at least have been harmless and inoffensive; yet *Virgil* advances a strange notion, that they are injurious to bees. After enumerating some probable and reasonable annoyances, such as prudent owners would wish far removed from their bee-gardens, he adds

"— — — — — — aut ubi concava pulsu
"Saxa sonant, vocisque offensa resultat imago."

This wild and fanciful assertion will hardly be admitted by the philosophers of these days; especially as they all now seem agreed that insects are not furnished with any organs of hearing at all. But if it should be urged, that though they cannot *hear* yet perhaps they may *feel* the repercussion of sounds, I grant it is possible they may. Yet that these impressions are distasteful or hurtful, I deny, because bees, in good summers, thrive well in my outlet, where the echoes are very strong: for this village is another *Anathoth*, a place of *responses* or *echoes*. Besides, it does not appear from experiment that bees are in any way capable of being affected by sounds: for I have often tried my own with a large speaking-trumpet held close to their hives, and with such an exertion of voice as would have hailed a ship at the distance of a mile, and still these insects pursued their various employments undisturbed, and without shewing the least sensibility or resentment.

Some time since it's discovery this echo is become totally

silent, though the object, or hop-kiln, remains: nor is there any mystery in this defect; for the field between is planted as an hop-garden, and the voice of the speaker is totally absorbed and lost among the poles and entangled foliage of the hops. And when the poles are removed in autumn the disappointment is the same; because a tall quick-set hedge, nurtured up for the purpose of shelter to the hop ground, entirely interrupts the impulse and repercussion of the voice: so that till those obstructions are removed no more of it's garrulity can be expected.

Should any gentleman of fortune think an echo in his park or outlet a pleasing incident, he might *build* one at little or no expense. For whenever he had occasion for a new barn, stable, dog-kennel, or the like structure, it would be only needful to erect this building on the gentle declivity of an hill, with a like rising opposite to it, at a few hundred yards distance; and perhaps success might be the easier ensured could some canal, lake, or stream, intervene. From a seat at the *centrum phonicum* he and his friends might amuse themselves sometimes of an evening with the prattle of this loquacious nymph; of whose complacency and decent reserve more may be said than can with truth of every individual of her sex; since she is — — — —

"— — — — — — quæ nec *reticere* loquenti,
"Nec *prior* ipsa *loqui* didicit resonabilis echo."

I am, &c.

P.S. The classic reader will, I trust, pardon the following lovely quotation, so finely describing echoes, and so poetically accounting for their causes from popular superstition:

"Quæ benè quom videas, rationem reddere possis
"Tute tibi atque aliis, quo pacto per loca sola
"Saxa pareis formas verborum ex ordine reddant,
"Palanteis comites quom monteis inter opacos
"Quærimus, et magnâ dispersos voce ciemus.
"Sex etiam, aut septem loca vidi reddere voces
"Unam quom jaceres: ita colles collibus ipsis
"Verba repulsantes iterabant dicta referre.
"Hæc loca capripedes Satyros, Nymphasque tenere
"Finitimi fingunt, et Faunos esse loquuntur;

"Quorum noctivago strepitu, ludoque jocanti
"Adfirmant volgo taciturna silentia rumpi,
"Chordarumque sonos fieri, dulceisque querelas,
"Tibia quas fundit digitis pulsata canentum:
"Et genus agricolûm latè sentiscere, quom Pan
"Pinea semiferi capitis velamina quassans,
"Unco sæpe labro calamos percurrit hianteis,
"Fistula silvestrem ne cesset fundere musam."

Lucretius, Lib. iv. l. 576*.

LETTER XXXIX.

TO THE SAME.

Selborne, May 13, 1778.

DEAR SIR,

AMONG the many singularities attending those amusing birds the *swifts*, I am now confirmed in the opinion that we have

* [The following sonnet appeared in a review of White's 'Selborne' in the 'Topographer,' shortly after the publication of the first edition. It forms a note on the above quotation from Lucretius.

"This beautiful passage appeared with the following translation in Sonnets and other Poems,' printed for Wilkie, 1785.

"Wand'ring amid deep woods and mountains dark,
Wilder'd by night, my comrades lost to guide,
Oft through the void I raised my voice; and hark!
The rocks with twenty mimic tones replied.
Within these sacred haunts, 'tis said, abide
Fauns, nymphs, and satyrs, who delight to mark
And mock each lonely sound: but ere the lark
Wakes her shrill note, to secret cells they glide.

"Night-wand'ring noises, revelry and joke
Disturb the air ('tis said by rustics round,
Who start to hear the solemn silence broke),
And warbling strings and plaintive pipes resound;
And oft they hear, when Pan his reed hath woke,
Hills, vales, and woods and glens the harmony rebound."

I have not succeeded in discovering who was the author of this pleasing translation.—T. B.]

every year the same number of pairs invariably; at least the result of my inquiry has been exactly the same for a long time past. The swallows and martins are so numerous, and so widely distributed over the village, that it is hardly possible to recount them; while the swifts, though they do not all build in the church, yet so frequently haunt it, and play and rendezvous round it, that they are easily enumerated. The number that I constantly find are *eight pairs;* about half of which reside in the church, and the rest build in some of the lowest and meanest thatched cottages. Now as these eight pairs, allowance being made for accidents, breed yearly eight pairs more, what becomes annually of this increase; and what determines every spring which pairs shall visit us, and re-occupy their ancient haunts?

Ever since I have attended to the subject of ornithology, I have always supposed that that sudden reverse of affection, that strange *αντιστοργη*, which immediately succeeds in the feathered kind to the most passionate fondness, is the occasion of an equal dispersion of birds over the face of the earth. Without this provision one favourite district would be crowded with inhabitants, while others would be destitute and forsaken. But the parent birds seem to maintain a jealous superiority, and to oblige the young to seek for new abodes: and the rivalry of the males, in many kinds, prevents their crowding the one on the other. Whether the swallows and house-martins return in the same exact number annually is not easy to say, for reasons given above: but it is apparent, as I have remarked before in my Monographies, that the numbers returning bear no manner of proportion to the numbers retiring.

LETTER XL.

TO THE SAME.

Selborne, June 2, 1778.

Dear Sir,

The standing objection to botany has always been, that it is a pursuit that amuses the fancy and exercises the memory, without improving the mind or advancing any real knowledge: and where the science is carried no farther than a mere systematic classification, the charge is but too true. But the botanist that is desirous of wiping off this aspersion should be by no means content with a list of names; he should study plants philosophically, should investigate the laws of vegetation, should examine the powers and virtues of efficacious herbs, should promote their cultivation; and graft the gardener, the planter, and the husbandman, on the phytologist. Not that system is by any means to be thrown aside; without system the field of Nature would be a pathless wilderness: but system should be subservient to, not the main object of, pursuit.

Vegetation is highly worthy of our attention; and in itself is of the utmost consequence to mankind, and productive of many of the greatest comforts and elegancies of life. To plants we owe timber, bread, beer, honey, wine, oil, linen, cotton, &c. what not only strengthens our hearts, and exhilarates our spirits, but what secures from inclemencies of weather and adorns our persons. Man, in his true state of nature, seems to be subsisted by spontaneous vegetation: in middle climes, where grasses prevail, he mixes some animal food with the produce of the field and garden: and it is towards the polar extremes only that, like his kindred bears and wolves, he gorges himself with flesh alone, and is driven, to what hunger has never been known to compel the very beasts, to prey on his own species.[u]

[u] See the late Voyages to the South-seas.

The productions of vegetation have had a vast influence on the commerce of nations, and have been the great promoters of navigation, as may be seen in the articles of sugar, tea, tobacco, opium, ginseng, betel, paper, &c. As every climate has its peculiar produce, our natural wants bring on a mutual intercourse; so that by means of trade each distant part is supplied with the growth of every latitude. But, without the knowledge of plants and their culture, we must have been content with our hips and haws, without enjoying the delicate fruits of *India* and the salutiferous drugs of *Peru*.

Instead of examining the minute distinctions of every various species of each obscure genus, the botanist should endeavour to make himself acquainted with those that are useful. You shall see a man readily ascertain every herb of the field, yet hardly know wheat from barley, or at least one sort of wheat or barley from another.

But of all sorts of vegetation the *grasses* seem to be most neglected; neither the farmer nor the grazier seem to distinguish the annual from the perennial, the hardy from the tender, nor the succulent and nutritive from the dry and juiceless.

The study of grasses would be of great consequence to a northerly, and grazing kingdom. The botanist that could improve the swerd of the district where he lived would be an useful member of society: to raise a thick turf on a naked soil would be worth volumes of systematic knowledge; and he would be the best commonwealth's man that could occasion the growth of "*two blades of grass* where *one* alone was seen before."

I am, &c.

LETTER XLI.

TO THE SAME.

Selborne, July 3, 1778.

Dear Sir,

In a district so diversified with such a variety of hill and dale, aspects, and soils, it is no wonder that great choice of plants should be found. Chalks, clays, sands, sheep-walks and downs, bogs, heaths, woodlands, and champaign fields, cannot but furnish an ample *Flora*. The deep rocky lanes abound with *filices*, and the pastures and moist woods with *fungi*. If in any branch of botany we may seem to be wanting, it must be in the large aquatic plants, which are not to be expected on a spot far removed from rivers, and lying up amidst the hill country at the spring heads. To enumerate all the plants that have been discovered within our limits would be a needless work; but a short list of the more rare, and the spots where they are to be found, may be neither unacceptable nor unentertaining * :—

Helleborus fœtidus, stinking hellebore, bear's foot, or setterwort, all over the *High-wood* and *Coney-croft-hanger:* this continues a great branching plant the winter through, blossoming about *January*, and is very ornamental in shady walks and shrubberies. The good women give the leaves powdered to children troubled with worms; but it is a violent remedy, and ought to be administered with caution.

Helleborus viridis, green hellebore,—in the deep stony lane on the left hand just before the turning to *Norton-farm*, and at the top of *Middle Dorton* under the hedge: this plant dies down to the ground early in autumn, and springs again about *February*, flowering almost as soon as it appears above ground.

* [A fuller catalogue of the noteworthy plants of Selborne and the neighbourhood will be found in the Appendix.—T. B.]

Vaccinium oxycoccos, creeping bilberries, or cranberries,—in the bogs of *Bin's-pond;*

Vaccinium myrtillus, whortle, or bilberries,—on the dry hillocks of *Wolmer-forest;*

Drosera rotundifolia, round-leaved sundew. } In the bogs of
——— *longifolia*, long-leaved ditto. } *Bin's-pond.*

Comarum palustre, purple comarum, or marsh cinque foil, —in the bogs of *Bin's-pond;*

Hypericon androsœmum, Tutsan, St. John's Wort,—in the stony, hollow lanes;

Vinca minor, less periwinkle,—in *Selborne-hanger* and *Shrub-wood;*

Monotropa hypopithys, yellow monotropa, or bird's nest,—in *Selborne-hanger* under the shady beeches, to whose roots it seems to be parasitical—at the north-west end of the *Hanger;*

Chlora perfoliata, *Blackstonia perfoliata*, *Hudsoni*, perfoliated yellow-wort,—on the banks in the *King's-field;*

Paris quadrifolia, herb Paris, true-love, or one-berry,—in the *Church-litten-coppice;*

Chrysosplenium oppositifolium, opposite golden saxifrage,—in the dark and rocky hollow lanes;

Gentiana amarella, autumnal gentian, or fellwort,—on the *Zig-zag* and *Hanger;*

Lathræa squammaria, tooth-wort,—in the *Church-litten-coppice* under some hazels near the foot-bridge, in *Trimming's* garden-hedge, and on the dry wall opposite *Grange-yard;*

Dipsacus pilosus, small teasel,—in the *Short* and *Long Lith.*

Lathyrus sylvestris, narrow-leaved, or wild lathyrus,—in the bushes at the foot of the *Short Lith*, near the path;

Ophrys spiralis, ladies traces,—in the *Long Lith*, and towards the south-corner of the common;

Ophrys nidus avis, birds' nest ophrys,—in the *Long Lith* under the shady beeches among the dead leaves; in *Great Dorton* among the bushes, and on the *Hanger* plentifully;

Serapias latifolia, helleborine,—in the *High-wood* under the shady beeches;

Daphne laureola, spurge laurel,—in *Selborne-Hanger* and the *High-wood.*

Daphne mezereum, the mezereon, — in *Selborne-Hanger* among the shrubs at the south-east end above the cottages.

Lycoperdon tuber, truffles,—in the *Hanger* and *High-wood*.

Sambucus ebulus, dwarf elder, wallwort, or danewort,— among the rubbish and ruined foundations of the *Priory*.*

Of all the propensities of plants none seem more strange than their different periods of blossoming. Some produce their flowers in the winter, or very first dawnings of spring; many when the spring is established; some at midsummer, and some not till autumn. When we see the *helleborus fœtidus* and *helleborus niger* blowing at Christmas, the *helleborus hyemalis* in January, and the *helleborus viridis* as soon as ever it emerges out of the ground, we do not wonder, because they are kindred plants that we expect should keep pace the one with the other. But other congenerous vegetables differ so widely in their time of flowering that we cannot but admire. I shall only instance at present in the *crocus sativus*, the vernal, and the autumnal crocus, which have such an affinity, that the best botanists only make them varieties of the same *genus*, of which there is only one *species;* not being able to discern any difference in the *corolla*, or in the internal structure. Yet the *vernal crocus* expands it's flowers by the beginning of March at farthest, and often in very rigorous weather; and cannot be retarded but by some violence offered:—while the *autumnal* (the *Saffron*) defies the influence of the spring and summer, and will not blow till most plants begin to fade and run to seed. This circumstance is one of the wonders of the creation, little noticed, because a common occurrence: yet ought not to be overlooked on account of it's being familiar, since it would be as difficult to be explained as the most stupendous phænomenon in nature.

> Say, what impels, amidst surrounding snow,
> Congeal'd, the *crocus*' flamy bud to grow?
> Say, what retards, amidst the summer's blaze,
> Th' *autumnal bulb* till pale, declining days?

* [The remainder of this letter does not appear in the first edition, but was added by his brother from the MS. of Gilbert on the publication of the 2nd edition in 2 vols. 8vo in 1802.—T. B.]

The God of Seasons; whose pervading power
Controls the sun, or sheds the fleecy shower:
He bids each flower his quick'ning word obey;
Or to each lingering bloom enjoins delay.

LETTER XLII.

TO THE SAME.

"Omnibus animalibus reliquis certus et uniusmodi, et in suo cuique "genere incessus est: aves solæ vario meatu feruntur, et in terrâ, et in "äere."

Plin. Hist. Nat. lib. x. cap. 38.

Selborne, Aug. 7, 1778.

Dear Sir,

A good ornithologist should be able to distinguish birds by their air as well as by their colours and shape; on the ground as well as on the wing, and in the bush as well as in the hand. For, though it must not be said that every *species* of birds has a manner peculiar to itself, yet there is somewhat in most *genera* at least, that at first sight discriminates them, and enables a judicious observer to pronounce upon them with some certainty. Put a bird in motion

"— — Et vera incessu patuit — — — —"

Thus *kites* and *buzzards* sail round in circles with wings expanded and motionless; and it is from their gliding manner that the former are still called in the north of *England gleads*, from the *Saxon* verb *glidan* to glide. The *kestrel*, or *wind-hover*, has a peculiar mode of hanging in the air in one place, his wings all the while being briskly agitated. *Hen-harriers* fly low over heaths or fields of corn, and beat the ground regularly like a pointer or setting-dog. *Owls* move in a buoyant manner, as if lighter than the air; they seem to want ballast. There is a peculiarity belonging to *ravens* that must draw the attention even of the most incurious—they spend all their leisure time in striking and cuffing each other on the wing in a kind of playful skirmish; and, when they

move from one place to another, frequently turn on their backs with a loud croak, and seem to be falling to the ground. When this odd gesture betides them, they are scratching themselves with one foot, and thus lose the center of gravity. *Rooks* sometimes dive and tumble in a frolicksome manner; *crows* and *daws* swagger in their walk; *wood-peckers* fly *volatu undoso*, opening and closing their wings at every stroke, and so are always rising or falling in curves. All of this genus use their tails, which incline downwnrd, as a support while they run up trees. *Parrots*, like all other hooked-clawed birds, walk aukwardly, and make use of their bill as a third foot, climbing and ascending with ridiculous caution. All the *gallinæ* parade and walk gracefully, and run nimbly; but fly with difficulty, with an impetuous whirring, and in a straight line. *Magpies* and *jays* flutter with powerless wings, and make no dispatch; *herons* seem incumbered with too much sail for their light bodies; but these vast hollow wings are necessary in carrying burdens, such as large fishes, and the like; *pigeons*, and particularly the sort called *smiters*, have a way of clashing their wings the one against the other over their backs with a loud snap; another variety called *tumblers* turn themselves over in the air. Some birds have movements peculiar to the season of love: thus *ring-doves*, though strong and rapid at other times, yet in the spring hang about on the wing in a toying and playful manner; thus the *cock-snipe*, while breeding, forgetting his former flight, fans the air like the wind-hover; and the *green-finch* in particular exhibits such languishing and faultering gestures as to appear like a wounded and dying bird; the *king-fisher* darts along like an arrow; *fern-owls*, or *goat-suckers*, glance in the dusk over the tops of trees like a meteor: *starlings* as it were swim along, while *missel-thrushes* use a wild and desultory flight; *swallows* sweep over the surface of the ground and water, and distinguish themselves by rapid turns and quick evolutions; *swifts* dash round in circles; and the *bank-martin* moves with frequent vacillations like a butterfly. Most of the small birds fly by jerks, rising and falling as they advance. Most small birds hop; but *wagtails* and *larks* walk, moving their legs

alternately. *Skylarks* rise and fall perpendicularly as they sing: *woodlarks* hang poised in the air; and *titlarks* rise and fall in large curves, singing in their descent. The *white-throat* uses odd jerks and gesticulations over the tops of hedges and bushes. All the *duck-kind* waddle; *divers* and *auks* walk as if fettered, and stand erect on their tails: these are the *compedes* of *Linnæus*. *Geese* and *cranes*, and most wild-fowls, move in figured flights, often changing their position. The secondary *remiges* of *Tringæ*, *wild-ducks*, and some others, are very long, and give their wings, when in motion, an hooked appearance. *Dab-chicks*, *moor-hens*, and *coots*, fly erect, with their legs hanging down, and hardly make any dispatch; the reason is plain, their wings are placed too forward out of the true centre of gravity; as the legs of *auks* and *divers* are situated too backward.

LETTER XLIII.

TO THE SAME.

Selborne, Sept. 9, 1778.

Dear Sir,

From the motion of birds, the transition is natural enough to their notes and language, of which I shall say something. Not that I would pretend to understand their language like the *vizier;* who, by the recital of a conversation which passed between two owls, reclaimed a sultan,[x] before delighting in conquest and devastation; but I would be thought only to mean that many of the winged tribes have various sounds and voices adapted to express their various passions, wants, and feelings; such as anger, fear, love, hatred, hunger, and the like. All species are not equally eloquent; some are copious and fluent as it were in their utterance, while others are confined to a few important sounds: no bird, like the fish kind, is quite mute, though some are rather silent. The language of birds is very ancient, and, like other ancient modes of speech, very elliptical: little is said, but much is meant and understood.

[x] See Spectator, Vol. VII, N° 512.

The notes of the eagle-kind are shrill and piercing; and about the season of nidification much diversified, as I have been often assured by a curious observer of Nature, who long resided at *Gibraltar*, where eagles abound. The notes of our *hawks* much resemble those of the king of birds. *Owls* have very expressive notes; they hoot in a fine vocal sound, much resembling the *vox humana*, and reducible by a pitch-pipe to a musical key. This note seems to express complacency and rivalry among the males: they use also a quick call and an horrible scream; and can snore and hiss when they mean to menace.* *Ravens*, besides their loud croak, can exert a deep and solemn note that makes the woods to echo; the amorous sound of a *crow* is strange and ridiculous; *rooks*, in the breeding season, attempt sometimes in the gaiety of their hearts to sing, but with no great success; the *parrot*-kind have many modulations of voice, as appears by their aptitude to learn human sounds; *doves* coo in an amorous and mournful manner, and are emblems of despairing lovers; the *woodpecker* sets up a sort of loud and hearty laugh; the *fern-owl*, or *goat-sucker*, from the dusk till day-break, serenades his mate with the clattering of castanets. All the tuneful *passeres* express their complacency by sweet modulations, and a variety of melody. The *swallow*, as has been observed in a former letter, by a shrill alarm bespeaks the attention of the other *hirundines*, and bids them be aware that the hawk is at hand. Aquatic and gregarious birds, especially the nocturnal, that shift their quarters in the dark, are very noisy and loquacious; as cranes, wild-geeese, wild-ducks, and the like; their perpetual clamour prevents them from dispersing and losing their companions.

In so extensive a subject, sketches and outlines are as much as can be expected; for it would be endless to instance in all the infinite variety of the feathered nation. We shall therefore confine the remainder of this letter to the few domestic fowls of our yards, which are most known, and therefore best understood. At first the *peacock*, with his gorgeous train demands our attention; but, like most of the gaudy birds, his

* [White here appears to confound the notes of the brown and the barn owl. See Letter XV. to Barrington.—T. B.]

notes are grating and shocking to the ear: the yelling of cats, and the braying of an ass, are not more disgustful. The voice of the *goose* is trumpet-like, and clanking; and once saved the Capitol at *Rome*, as grave historians assert: the hiss also of the *gander* is formidable and full of menace, and "protective of his young." Among *ducks* the sexual distinction of voice is remarkable; for, while the *quack* of the female is loud and sonorous, the voice of the *drake* is inward and harsh and feeble, and scarce discernible. The cock *turkey* struts and gobbles to his mistress in a most uncouth manner; he hath also a pert and petulant note when he attacks his adversary. When a hen *turkey* leads forth her young brood she keeps a watchful eye: and if a bird of prey appear, though ever so high in the air, the careful mother announces the enemy with a little inward moan, and watches him with a steady and attentive look; but, if he approach, her note becomes earnest and alarming, and her outcries are redoubled.

No inhabitants of a yard seem possessed of such a variety of expression and so copious a language as common poultry. Take a chicken of four or five days old, and hold it up to a window where there are flies, and it will immediately seize it's prey, with little twitterings of complacency; but if you tender it a wasp or a bee, at once it's note becomes harsh, and expressive of disapprobation and a sense of danger. When a pullet is ready to lay she intimates the event by a joyous and easy soft note. Of all the occurrences of their life that of *laying* seems to be the most important; for no sooner has a hen disburdened herself, than she rushes forth with a clamorous kind of joy, which the cock and the rest of his mistresses immediately adopt. The tumult is not confined to the family concerned, but catches from yard to yard, and spreads to every homestead within hearing, till at last the whole village is in an uproar. As soon as a hen becomes a mother her new relation demands a new language; she then runs clocking and screaming about, and seems agitated as if possessed. The father of the flock has also a considerable vocabulary; if he finds food, he calls a favourite concubine to partake; and if a bird of prey passes over, with a warning voice he bids his

family beware. The gallant *chanticleer* has, at command, his amorous phrases, and his terms of defiance. But the sound by which he is best known is his *crowing:* by this he has been distinguished in all ages as the countryman's clock or larum, as the watchman that proclaims the divisions of the night. Thus the poet elegantly stiles him :

"— — — the crested cock, whose clarion sounds
"The silent hours."

A neighbouring gentleman one summer had lost most of his chickens by a sparrow-hawk, that came gliding down between a faggot pile and the end of his house to the place where the coops stood. The owner, inwardly vexed to see his flock thus diminishing, hung a setting net adroitly between the pile and the house, into which the caitiff dashed and was entangled. Resentment suggested the law of retaliation ; he therefore clipped the hawk's wings, cut off his talons, and, fixing a cork on his bill, threw him down among the brood-hens. Imagination cannot paint the scene that ensued ; the expressions that fear, rage, and revenge, inspired, were new, or at least such as had been unnoticed before : the exasperated matrons upbraided, they execrated, they insulted, they triumphed. In a word, they never desisted from buffeting their adversary till they had torn him in an hundred pieces.

LETTER XLIV.

TO THE SAME.

Selborne.

"— — — — monstrent"
"— — — — —"
"Quid tantùm Oceano properent se tingere soles '
"Hyberni ; vel quæ tardis mora noctibus obstet.

GENTLEMEN who have outlets might contrive to make ornament subservient to utility ; a pleasing eye-trap might also contribute to promote science : an obelisk in a garden or park might be both an embellishment and an *heliotrope.*

Any person that is curious, and enjoys the advantage of a good horizon, might, with little trouble, make two *heliotropes;* the one for the *winter*, the other for the *summer* solstice : and these two erections might be constructed with very little expense; for two pieces of timber frame-work, about ten or twelve feet high, and four feet broad at the base, and close lined with plank, would answer the purpose.

The erection for the former should, if possible, be placed within sight of some window in the common sitting parlour ; because men, at that dead season of the year, are usually within doors at the close of the day; while that for the latter might be fixed for any given spot in the garden or outlet : whence the owner might contemplate, in a fine summer's evening, the utmost extent that the sun makes to the *northward* at the season of the longest days. Now nothing would be necessary but to place these two *objects* with so much exactness, that the *westerly* limb of the sun, at setting, might but just clear the *winter heliotrope* to the *west* of it on the *shortest* day ; and that the *whole* disc of the sun, at the *longest* day, might exactly at setting also clear the *summer heliotrope* to the *north* of it.

By this simple expedient it would soon appear that there is no such thing, strictly speaking, as a solstice ; for, from the *shortest* day, the owner would, every clear evening, see the disc *advancing*, at it's setting, to the *westward* of the object ; and, from the *longest* day, observe the sun *retiring* backwards every evening at it's setting, towards the object *westward*, till, in a few nights, it would set quite behind it, and so by degrees to the *west* of it: for when the sun comes near the summer solstice, the whole disc of it would at first set behind the object ; after a time the *northern* limb would first appear, and so every night gradually more, till at length the whole diameter would set *northward* of it for about three nights ; but on the middle night of the three, sensibly more remote than the former or following. When beginning it's recess from the summer tropic, it would continue more and more to be hidden every night, till at length it would descend quite behind the object again ; and so nightly more and more to the *westward*.

LETTER XLV.

TO THE SAME.

Selborne.

"— — — Mugire videbis
"Sub pedibus terram, et descendere montibus ornos."

When I was a boy I used to read, with astonishment and implicit assent, accounts in *Baker's Chronicle* of walking hills and travelling mountains. *John Philips*, in his *Cyder*, alludes to the credit that was given to such stories with a delicate but quaint vein of humour peculiar to the author of the *Splendid Shilling*.

"I nor advise, nor reprehend the choice
"Of *Marcley Hill*; the apple no where finds
"A kinder mould: yet 'tis unsafe to trust
"Deceitful ground: who knows but that once more
"This mount may journey, and his present site
"Forsaken, to thy neighbour's bounds transfer
"Thy goodly plants, affording matter strange
"For law debates!"

But, when I came to consider better, I began to suspect that though our hills may never have journeyed far, yet that the ends of many of them have slipped and fallen away at distant periods, leaving the cliffs bare and abrupt. This seems to have been the case with *Nore* and *Whetham Hills;* and especially with the ridge between *Harteley Park* and *Ward le ham*, where the ground has slid into vast swellings and furrows; and lies still in such romantic confusion as cannot be accounted for from any other cause. A strange event, that happened not long since, justifies our suspicions; which, though it befell not within the limits of this parish, yet as it was within the hundred of *Selborne*, and as the circumstances were singular, may fairly claim a place in a work of this nature.

The months of *January* and *February*, in the year 1774, were remarkable for great melting snows and vast gluts of rain, so that by the end of the latter month the land-springs,

or *lavants*, began to prevail, and to be near as high as in the memorable winter of 1764. The beginning of *March* also went on in the same tenor; when, in the night between the 8th and 9th of that month, a considerable part of the great woody hanger at *Hawkley* was torn from it's place, and fell down, leaving a high freestone cliff naked and bare, and resembling the steep side of a chalk-pit. It appears that this huge fragment, being perhaps sapped and undermined by waters, foundered, and was ingulfed, going down in a perpendicular direction; for a gate which stood in the field, on the top of the hill, after sinking with it's posts for thirty or forty feet, remained in so true and upright a position as to open and shut with great exactness, just as in it's first situation. Several oaks also are still standing, and in a state of vegetation, after taking the same desperate leap. That great part of this prodigious mass was absorbed in some gulf below, is plain also from the inclining ground at the bottom of the hill, which is free and unincumbered; but would have been buried in heaps of rubbish, had the fragment parted and fallen forward. About an hundred yards from the foot of this hanging coppice stood a cottage by the side of a lane; and two hundred yards lower, on the other side of the lane, was a farm-house, in which lived a labourer and his family; and, just by, a stout new barn. The cottage was inhabited by an old woman and her son and his wife. These people in the evening, which was very dark and tempestuous, observed that the brick floors of their kitchens began to heave and part; and that the walls seemed to open, and the roofs to crack: but they all agree that no tremor of the ground, indicating an earthquake, was ever felt; only that the wind continued to make a most tremendous roaring in the woods and hangers. The miserable inhabitants, not daring to go to bed, remained in the utmost solicitude and confusion, expecting every moment to be buried under the ruins of their shattered edifices. When day-light came they were at leisure to contemplate the devastations of the night: they then found that a deep rift, or chasm, had opened under their houses, and torn them, as it were, in two; and that one end of the barn had suffered in a similar manner;

that a pond near the cottage had undergone a strange reverse, becoming deep at the shallow end, and so *vice versa;* that many large oaks were removed out of their perpendicular, some thrown down, and some fallen into the heads of neighbouring trees; and that a gate was thrust forward, with it's hedge, full six feet, so as to require a new track to be made to it. From the foot of the cliff the general course of the ground, which is pasture, inclines in a moderate descent for half a mile, and is interspersed with some hillocks, which were rifted, in every direction, as well towards the great woody hanger, as from it. In the first pasture the deep clefts began: and running across the lane, and under the buildings, made such vast shelves that the road was impassable for some time; and so over to an arable field on the other side, which was strangely torn and disordered. The second pasture field, being more soft and springy, was protruded forward without many fissures in the turf, which was raised in long ridges resembling graves, lying at right angles to the motion. At the bottom of this enclosure the soil and turf rose many feet against the bodies of some oaks that obstructed their farther course and terminated this awful commotion.

The perpendicular height of the precipice, in general, is twenty-three yards; the length of the lapse, or slip, as seen from the fields below, one hundred and eighty-one; and a partial fall, concealed in the coppice, extends seventy yards more: so that the total length of this fragment that fell was two hundred and fifty-one yards. About fifty acres of land suffered from this violent convulsion; two houses were entirely destroyed; one end of a new barn was left in ruins, the walls being cracked through the very stones that composed them; a hanging coppice was changed to a naked rock; and some grass grounds and an arable field so broken and rifted by the chasms as to be rendered, for a time, neither fit for the plough or safe for pasturage, till considerable labour and expense had been bestowed in levelling the surface and filling in the gaping fissures*.

* [On this interesting phenomenon, so graphically described, Mr. Bennett has given an elaborate note, from which I quote the following

LETTER XLVI.

TO THE SAME.

Selborne.

"— — — resonant arbusta — — — —"

THERE is a steep abrupt pasture field interspersed with furze close to the back of this village, well known by the name of the *Short Lithe*, consisting of a rocky dry soil, and inclining to the afternoon sun. This spot abounds with the *gryllus campestris*, or *field-cricket;* which, though frequent in these

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passage, which gives in brief the rationale of the occurrence:—"That neither the rock which had parted from the cliff, nor any fragment of it, remained upon the surface below the naked face of the escarpment is indeed sufficient evidence of its having passed beneath the soil. But to account for its subsidence it is by no means necessary to assume, as appears to be conjectured in the text, the existence of a gulf below it, into which it had been absorbed. The geological relations of the strata point to a much easier, as well as a more correct, explanation of the occurrence. Here, as elsewhere throughout the district, the malm rock, or freestone of the Upper Greensand formation, rests upon the gault or blue clay, a rock upon a yielding base. An adequate weight placed upon so infirm a soil as the lower of these formations must of necessity sink into it. So prodigious a mass as that which, on the occasion described in the text, was separated from its native rock, and left to be supported by the soft clay alone, was more than its pulpy nature could support; and it gave way accordingly, removing into its yielding substance, and burying almost entirely beneath its surface, the detached face of the cliff, which subsided into it so easily and so perpendicularly as not to disturb the adjustment of a gate upon the sunken mass, once on the top, and now at the foot of the escarpment" (Bennett's edition, p. 341). Mr. Bennett enlarges on the subject to a greater extent than we need to follow, and with his accustomed accuracy and clearness.

The earliest account of this remarkable catastrophe is contained in a letter (which will be found in the Appendix) from John White, who was then residing with his uncle Gilbert, to his cousin Samuel Barker, and written at his uncle's desire, and doubtless from his dictation. The Hanger, which was the scene of this event, had formerly been the property of Gilbert White's father.—T. B.]

parts, is by no means a common insect in many other counties.

As their cheerful summer cry cannot but draw the attention of a naturalist, I have often gone down to examine the œconomy of these *grylli*, and study their mode of life: but they are so shy and cautious that it is no easy matter to get a sight of them; for, feeling a person's footsteps as he advances, they stop short in the midst of their song, and retire backward nimbly into their burrows, where they lurk till all suspicion of danger is over.

At first we attempted to dig them out with a spade, but without any great success; for either we could not get to the bottom of the hole, which often terminated under a great stone; or else, in breaking up the ground, we inadvertently squeezed the poor insect to death. Out of one so bruised we took a multitude of eggs, which were long and narrow, of a yellow colour, and covered with a very tough skin. By this accident we learned to distinguish the male from the female; the former of which is shining black, with a golden stripe across his shoulders; the latter is more dusky, more capacious about the abdomen, and carries a long sword-shaped weapon at her tail, which probably is the instrument with which she deposits her eggs in crannies and safe receptacles.

Where violent methods will not avail, more gentle means will often succeed; and so it proved in the present case; for, though a spade be too boisterous and rough an implement, a pliant stalk of grass, gently insinuated into the caverns, will probe their windings to the bottom, and quickly bring out the inhabitant; and thus the humane inquirer may gratify his curiosity without injuring the object of it. It is remarkable that, though these insects are furnished with long legs behind, and brawny thighs for leaping, like grashoppers; yet when driven from their holes they show no activity, but crawl along in a shiftless manner, so as easily to be taken: and again, though provided with a curious apparatus of wings, yet they never exert them when there seems to be the greatest occasion. The males only make that shrilling noise perhaps out of rivalry and emulation, as is the case with many animals which

exert some sprightly note during their breeding time: it is raised by a brisk friction of one wing against the other. They are solitary beings, living singly male or female, each as it may happen; but there must be a time when the sexes have some intercourse, and then the wings may be useful perhaps during the hours of night. When the males meet they will fight fiercely, as I found by some which I put into the crevices of a dry stone wall, where I should have been glad to have made them settle. For though they seemed distressed by being taken out of their knowledge, yet the first that got possession of the chinks would seize on any that were obtruded upon them with a vast row of serrated fangs. With their strong jaws, toothed like the shears of a lobster's claws, they perforate and round their curious regular cells, having no fore-claws to dig, like the mole-cricket. When taken in hand I could not but wonder that they never offered to defend themselves, though armed with such formidable weapons. Of such herbs as grow before the mouths of their burrows they eat indiscriminately; and on a little platform, which they make just by, they drop their dung; and never, in the day time, seem to stir more than two or three inches from home. Sitting in the entrance of their caverns they chirp all night as well as day from the middle of the month of *May* to the middle of *July;* and in hot weather, when they are most vigorous, they make the hills echo; and, in the stiller hours of darkness, may be heard to a considerable distance. In the beginning of the season their notes are more faint and inward; but become louder as the summer advances, and so die away again by degrees.

Sounds do not always give us pleasure according to their sweetness and melody; nor do harsh sounds always displease. We are more apt to be captivated or disgusted with the associations which they promote, than with the notes themselves. Thus the shrilling of the *field-cricket*, though sharp and stridulous, yet marvellously delights some hearers, filling their minds with a train of summer ideas of every thing that is rural, verdurous, and joyous.

About the tenth of *March* the crickets appear at the mouths

of their cells, which they then open and bore, and shape very elegantly. All that ever I have seen at that season were in their pupa state, and had only the rudiments of wings, lying under a skin or coat, which must be cast before the insect can arrive at it's perfect state;[y] from whence I should suppose that the old ones of last year do not always survive the winter. In *August* their holes begin to be obliterated, and the insects are seen no more till spring.

Not many summers ago I endeavoured to transplant a colony to the terrace in my garden, by boring deep holes in the sloping turf. The new inhabitants stayed some time, and fed and sung; but wandered away by degrees, and were heard at a farther distance every morning; so that it appears that on this emergency they made use of their wings in attempting to return to the spot from which they were taken.

One of these crickets, when confined in a paper cage and set in the sun, and supplied with plants moistened with water, will feed and thrive, and become so merry and loud as to be irksome in the same room where a person is sitting: if the plants are not wetted it will die.

LETTER XLVII.

TO THE SAME.

Selborne.

DEAR SIR,

"Far from all resort of mirth
"Save the cricket on the hearth." MILTON'S *Il Penseroso.*

WHILE many other insects must be sought after in fields and woods, and waters, the *gryllus domesticus*, or *house-cricket*, resides altogether within our dwellings, intruding itself upon our notice whether we will or no. This species delights in new-built houses, being, like the spider, pleased with the moisture of the walls; and besides, the softness of the mortar enables them to burrow and mine between the joints of the

[y] We have observed that they cast these skins in *April*, which are then seen lying at the mouths of their holes.

bricks or stones, and to open communications from one room to another. They are particularly fond of kitchens and bakers' ovens, on account of their perpetual warmth.

Tender insects that live abroad either enjoy only the short period of one summer, or else doze away the cold uncomfortable months in profound slumbers; but these, residing as it were in a torrid zone, are always alert and merry: a good *Christmas* fire is to them like the heats of the dog-days. Though they are frequently heard by day, yet is their natural time of motion only in the night. As soon as it grows dusk, the chirping increases, and they come running forth, and are from the size of a flea to that of their full stature. As one should suppose, from the burning atmosphere which they inhabit, they are a thirsty race, and show a great propensity for liquids, being found frequently drowned in pans of water, milk, broth, or the like. Whatever is moist they affect; and therefore often gnaw holes in wet woollen stockings and aprons that are hung to the fire: they are the housewife's barometer, foretelling her when it will rain; and are prognostic sometimes, she thinks, of ill or good luck; of the death of a near relation, or the approach of an absent lover. By being the constant companions of her solitary hours they naturally become the objects of her superstition. These crickets are not only very thirsty, but very voracious; for they will eat the scummings of pots, and yeast, salt, and crumbs of bread; and any kitchen offal or sweepings. In the summer we have observed them to fly, when it became dusk, out of the windows, and over the neighbouring roofs. This feat of activity accounts for the sudden manner in which they often leave their haunts, as it does for the method by which they come to houses where they were not known before. It is remarkable, that many sorts of insects seem never to use their wings but when they have a mind to shift their quarters and settle new colonies. When in the air they move "*volatu undoso*," in waves or curves, like *wood-peckers*, opening and shutting their wings at every stroke, and so are always rising or sinking.

When they increase to a great degree, as they did once in

the house where I am now writing, they become noisome pests, flying into the candles, and dashing into people's faces; but may be blasted and destroyed by gunpowder discharged into their crevices and crannies. In families, at such times, they are, like Pharaoh's plague of frogs,—"in their bed-"chambers, and upon their beds, and in their ovens, and in "their kneading-troughs."[z] Their shrilling noise is occasioned by a brisk attrition of their wings. Cats catch hearth crickets, and, playing with them as they do with mice, devour them. Crickets may be destroyed, like wasps, by phials half filled with beer, or any liquid, and set in their haunts; for, being always eager to drink, they will crowd in till the bottles are full.

LETTER XLVIII.

TO THE SAME.

Selborné.

How diversified are the modes of life not only of incongruous but even of congenerous animals; and yet their specific distinctions are not more various than their propensities. Thus, while the *field-cricket* delights in sunny dry banks, and the *house-cricket* rejoices amidst the glowing heat of the kitchen hearth or oven, the *gryllus gryllo talpa* (the *mole-cricket*,) haunts moist meadows, and frequents the sides of ponds and banks of streams, performing all it's functions in a swampy wet soil. With a pair of fore-feet, curiously adapted to the purpose, it burrows and works under ground like the mole, raising a ridge as it proceeds, but seldom throwing up hillocks.

As *mole-crickets* often infest gardens by the sides of canals, they are unwelcome guests to the gardener, raising up ridges in their subterraneous progress, and rendering the walks unsightly. If they take to the kitchen quarters, they occasion great damage among the plants and roots, by destroying whole beds of cabbages, young legumes, and flowers. When dug out they seem very slow and helpless, and make no use

[z] Exod. viii. 3.

of their wings by day; but at night they come abroad, and make long excursions, as I have been convinced by finding stragglers, in a morning, in improbable places. In fine weather, about the middle of *April*, and just at the close of day, they begin to solace themselves with a low, dull, jarring note, continued for a long time without interruption, and not unlike the chattering of the fern-owl, or goat-sucker, but more inward.

About the beginning of *May* they lay their eggs, as I was once an eye-witness: for a gardener at an house, where I was on a visit, happening to be mowing, on the 6th of that month, by the side of a canal, his scythe struck too deep, pared off a large piece of turf, and laid open to view a curious scene of domestic œconomy:

"— — — — ingentem lato dedit ore fenestram:
"Apparet domus intus, et atria longa patescunt:
"Apparent — — — penetralia."

There were many caverns and winding passages leading to a kind of chamber, neatly smoothed and rounded, and about the size of a moderate snuff-box. Within this secret nursery were deposited near an hundred eggs of a dirty yellow colour, and enveloped in a tough skin, but too lately excluded to contain any rudiments of young, being full of a viscous substance. The eggs lay but shallow, and within the influence of the sun, just under a little heap of fresh-moved mould, like that which is raised by ants.

When *mole-crickets* fly they move "*cursu undoso*," rising and falling in curves, like the other species mentioned before. In different parts of this kingdom people call them *fen-crickets*, *churr-worms*, and *eve-churrs*, all very apposite names.

Anatomists, who have examined the intestines of these insects, astonish me with their accounts; for they say that, from the structure, position, and number of their stomachs, or maws, there seems to be good reason to suppose that this and the two former species *ruminate* or *chew* the *cud* like many quadrupeds*!

* [The following note by Professor Owen is copied from Mr. Bennett's edition, p. 354. "In the Hunterian Collection are preparations of the

LETTER XLIX.

TO THE SAME.

Selborne, May 7, 1779.

It is now more than forty years that I have paid some attention to the ornithology of this district, without being able to exhaust the subject: new occurrences still arise as long as any inquiries are kept alive.

In the last week of last month five of those most rare birds, too uncommon to have obtained an *English* name, but known to naturalists by the terms of *himantopus*, or *loripes*, and *charadrius himantopus*, were shot upon the verge of *Frinsham-pond*, a large lake belonging to the bishop of *Winchester*, and lying between *Wolmer-forest*, and the town of *Farnham*, in the county of *Surrey*. The pond keeper says there were three brace in the flock; but that, after he had satisfied his curiosity, he suffered the sixth to remain unmolested. One of these specimens I procured, and found the length of the legs to be so extraordinary, that, at first sight, one might have supposed the shanks had been fastened on to impose on the credulity of the beholder: they were legs

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singularly complex stomach here alluded to, as it exists in the mole cricket, and in the locust. The structure is similar in both as to the number of stomachs, but they differ in their relative positions. The first cavity or crop . . . . in the mole cricket is appended, like the crop of a granivorous bird, to one side of the gullet, communicating with it by a lateral opening. . . . . The gizzard is small, but armed internally with longitudinal rows of complex teeth. Two large lateral pouches open into the lower part or termination of the gizzard. The analogy between this digestive apparatus and that of the ruminants is vague, and does not extend beyond the number of cavities. It is more like that of the bird; and since the comminuting or masticating organs are situated . . . . in the stomach, it cannot be supposed that the food is again returned to the mouth, where it has already received all the division which the oral instruments can effect."—T. B.]

in *caricatura;* and had we seen such proportions on a *Chinese* or *Japan* screen we should have made large allowances for the fancy of the draughtsman. These birds are of the *plover* family, and might with propriety be called the *stilt plovers. Brisson,* under that idea, gives them the apposite name of *l'echasse.* My specimen, when drawn and stuffed with pepper, weighed only four ounces and a quarter, though the *naked* part of the thigh measured three inches and an half, and the legs four inches and an half. Hence we may safely assert that these birds exhibit, weight for inches, incomparably the greatest length of legs of any known bird. The *flamingo,* for instance, is one of the most long legged birds, and yet it bears no manner of proportion to the *himantopus;* for a cock *flamingo* weighs, at an average, about four pounds avoirdupois; and his legs and thighs measure usually about twenty inches. But four pounds are fifteen times and a fraction more than four ounces and one quarter; and if four ounces and a quarter have eight inches of legs, four pounds must have one hundred and twenty inches and a fraction of legs; *viz.* somewhat more than ten feet; such a monstrous proportion as the world never saw* ! If you should try the experiment in still larger birds the disparity would still increase. It must be matter of great curiosity to see the *stilt plover* move; to observe how it can wield such a length of lever with such feeble muscles as the thighs seem to be furnished with. At best one should expect it to be but a bad walker: but what adds to the wonder is that it has no back toe. Now without that steady prop to support it's steps it must be liable, in speculation, to perpetual vacillations, and seldom able to preserve the true center of gravity.

The old name of *himantopus* is taken from *Pliny;* and, by

* [It is remarkable that a man so accurate as the author should have fallen into so obvious a mistake as this, to which my attention was drawn many years ago by my late nephew Dr. Bell Salter; and it is not less so that one edition after another has appeared under the supervision and auspices of so many successive editors without detection. The proportion of the limb should be according to the cube root of the weight of each bird; and in the present instance, by a simple calculation, it will be seen that nature is right and that Gilbert White was wrong.—T. B.]

an aukward metaphor, implies that the legs are as slender and pliant as if cut out of a *thong* of leather. Neither *Willughby* nor *Ray*, in all their curious researches, either at home or abroad, ever saw this bird. Mr. *Pennant* never met with it in all *Great-Britain*, but observed it often in the cabinets of the curious at *Paris*. *Hasselquist* says that it migrates to *Egypt* in the autumn: and a most accurate observer of Nature has assured me that he has found it on the banks of the streams in *Andalusia*.

Our writers record it to have been found only twice in *Great-Britain*. From all these relations it plainly appears that these long legged *plovers* are birds of *South Europe*, and rarely visit our island; and when they do are wanderers and stragglers, and impelled to make so distant and northern an excursion from motives or accidents for which we are not able to account. One thing may fairly be deduced, that these birds come over to us from the continent, since nobody can suppose that a species not noticed once in an age, and of such a remarkable make, can constantly breed unobserved in this kingdom.

LETTER L.

TO THE SAME.

Selborne, April 21, 1780.

DEAR SIR,

THE old *Sussex* tortoise, that I have mentioned to you so often, is become my property. I dug it out of it's winter dormitory in *March* last, when it was enough awakened to express it's resentments by hissing; and, packing it in a box with earth, carried it eighty miles in post-chaises. The rattle and hurry of the journey so perfectly roused it that, when I turned it out on a border, it walked twice down to the bottom of my garden; however, in the evening, the weather being cold, it buried itself in the loose mould, and continues still concealed.

As it will be under my eye, I shall now have an opportunity of enlarging my observations on it's mode of life, and propensities; and perceive, already that, towards the time of coming forth, it opens a breathing place in the ground near it's head, requiring, I conclude, a freer respiration, as it becomes more alive. This creature not only goes under the earth from the middle of *November* to the middle of *April*, but sleeps great part of the summer; for it goes to bed in the longest days at four in the afternoon, and often does not stir in the morning till late. Besides, it retires to rest for every shower; and does not move at all in wet days.

When one reflects on the state of this strange being, it is a matter of wonder to find that Providence should bestow such a profusion of days, such a seeming waste of longevity, on a reptile that appears to relish it so little as to squander more than two thirds of it's existence in a joyless stupor, and be lost to all sensation for months together in the profoundest of slumbers *.

While I was writing this letter, a moist and warm afternoon, with the thermometer at 50, brought forth troops of *shell-snails;* and, at the same juncture, the *tortoise* heaved up

* [I still have no doubt of the correctness of the opinion I formerly expressed, that the tortoise "Timothy" was the *Testudo marginata*; at the same time Mr. Bennett's opinion that it was distinct and undescribed is worthy of attention. Although, therefore, it was not that "his wish was father to the thought," yet it was doubtless gratifying to be able to perpetuate the relation between the favourite reptile and his reverend owner and biographer by naming it after him "*T. Whitei.*" The shell, which is well figured in Mr. Bennett's edition, at page 361, is in the British Museum, to which it was presented by Miss Georgina White.

While on the subject of Tortoises, I may refer to a letter from Gilbert White to his brother John, dated September 26, 1774, in which will be found a most interesting allusion to a particular form of the sternum in certain Tortoises, showing that he was the first who detected the difference in the "box tortoises," in which the anterior and posterior portions of the sternum are moveable with a distinct hinge, as in the genus *Cistudo* for example. The whole of this account is very interesting, and worthy of the acute observation for which the writer was so eminently distinguished. It will be found in the Appendix, as well as John White's letter to Linnæus, in which no mention is made of the real discoverer. —T. B.]

the mould and put out it's head; and the next morning came forth, as it were raised from the dead; and walked about till four in the afternoon. This was a curious coincidence! a very amusing occurrence! to see such a similarity of feelings between the two φερεοικοι! for so the *Greeks* call both the *shell-snail* and the *tortoise*.

Summer birds are, this cold and backward spring, unusually late: I have seen but one swallow yet. This conformity with the weather convinces me more and more that they sleep in the winter.

LETTER LI.

TO THE SAME.

Selborne, Sept. 3, 1781.

I HAVE now read your miscellanies through with much care and satisfaction; and am to return you my best thanks for the honourable mention made in them of me as a naturalist, which I wish I may deserve.

In some former letters I expressed my suspicions that many of the house-martins do not depart in the winter far from this village. I therefore determined to make some search about the south-east end of the hill, where I imagined they might slumber out the uncomfortable months of winter. But supposing that the examination would be made to the best advantage in the spring, and observing that no martins had appeared by the 11th of *April* last; on that day I employed some men to explore the shrubs and cavities of the suspected spot. The persons took pains, but without any success: however, a remarkable incident occurred in the midst of our pursuit—while the labourers were at work a house-martin, the first that had been seen this year, came down the village in the sight of several people, and went at once into a nest, where it stayed a short time, and then flew over the houses; for some days after no martins were observed, not till the

16th of *April*, and then only a pair. Martins in general were remarkably late this year.

LETTER LII.

TO THE SAME.

Selborne, Sep. 9, 1781.

I HAVE just met with a circumstance respecting swifts, which furnishes an exception to the whole tenor of my observations ever since I have bestowed any attention on that species of hirundines. Our swifts, in general, withdrew this year about the first day of *August*, all save one pair, which in two or three days was reduced to a single bird. The perseverance of this individual made me suspect that the strongest of motives, that of an attachment to her young, could alone occasion so late a stay. I watched therefore till the twenty-fourth of *August*, and then discovered that, under the eaves of the church, she attended upon two young, which were fledged, and now put out their white chins from a crevice. These remained till the twenty-seventh, looking more alert every day, and seeming to long to be on the wing. After this day they were missing at once; nor could I ever observe them with their dam coursing round the church in the act of learning to fly, as the first broods evidently do. On the thirty-first I caused the eaves to be searched, but we found in the nest only two callow, dead, stinking swifts, on which a second nest had been formed. This double nest was full of the black shining cases of the *hippoboscæ hirundinis*.

The following remarks on this unusual incident are obvious. The first is, that though it may be disagreeable to swifts to remain beyond the beginning of *August*, yet that they can subsist longer is undeniable. The second is, that this uncommon event, as it was owing to the loss of the first brood, so it corroborates my former remark, that swifts breed regu-

larly but once; since, was the contrary the case, the occurrence above could neither be new nor rare.

P. S. One swift was seen at *Lyndon*, in the county of *Rutland*, in 1782, so late as the third of *September*.

LETTER LIII.

TO THE SAME.

As I have sometimes known you make inquiries about several kinds of insects, I shall here send you an account of one sort which I little expected to have found in this kingdom. I had often observed that one particular part of a vine growing on the walls of my house was covered in the autumn with a black dust-like appearance, on which the flies fed eagerly; and that the shoots and leaves thus affected did not thrive; nor did the fruit ripen. To this substance I applied my glasses; but could not discover that it had any thing to do with animal life, as I at first expected: but, upon a closer examination behind the larger boughs, we were surprised to find that they were coated over with husky shells, from whose sides proceeded a cotton-like substance, surrounding a multitude of eggs. This curious and uncommon production put me upon recollecting what I have heard and read concerning the *coccus vitis viniferæ* of *Linnæus*, which, in the south of *Europe*, infests many vines, and is an horrid and loathsome pest. As soon as I had turned to the accounts given of this insect, I saw at once that it swarmed on my vine; and did not appear to have been at all checked by the preceding winter, which had been uncommonly severe.

Not being then at all aware that it had any thing to do with *England*, I was much inclined to think that it came from *Gibraltar* among the many boxes and packages of plants and birds which I had formerly received from thence; and especially as the vine infested grew immediately under

my study-window, where I usually kept my specimens. True it is that I had received nothing from thence for some years: but as insects, we know, are conveyed from one country to another in a very unexpected manner, and have a wonderful power of maintaining their existence till they fall into a *nidus* proper for their support and increase, I cannot but suspect still that these *cocci* came to me originally from *Andalusia*. Yet, all the while, candour obliges me to confess that Mr. *Lightfoot* has written me word that he once, and but once, saw these insects on a vine at *Weymouth* in *Dorsetshire;* which, it is here to be observed, is a seaport town to which the *coccus* might be conveyed by shipping.

As many of my readers may possibly never have heard of this strange and unusual insect, I shall here transcribe a passage from a natural history of *Gibraltar*, written by the Reverend *John White*, late vicar of *Blackburn* in *Lancashire*, but not yet published :—

"In the year 1770 a vine which grew on the east-side of "my house, and which had produced the finest crops of grapes "for years past, was suddenly overspread on all the woody "branches with large lumps of a white fibrous substance "resembling spiders webs, or rather raw cotton. It was of "a very clammy quality, sticking fast to every thing that "touched it, and capable of being spun into long threads. "At first I suspected it to be the produce of spiders, but "could find none. Nothing was to be seen connected with "it but many *brown oval husky shells*, which by no means "looked like insects, but rather resembled bits of the dry "bark of the vine. The tree had a plentiful crop of grapes "set, when this pest appeared upon it; but the fruit was "manifestly injured by this foul incumbrance. It remained "all the summer, still increasing, and loaded the woody and "bearing branches to a vast degree. I often pulled off great "quantities by handfuls; but it was so slimy and tenacious "that it could by no means be cleared. The grapes never "filled to their natural perfection, but turned watery and "vapid. Upon perusing the works afterwards of M. de

"*Reaumur**, I found this matter perfectly described and "accounted for. Those husky shells, which I had observed, "were no other than the *female coccus*, from whose sides this "cotton-like substance exsudes, and serves as a covering and "security for their eggs."

To this account I think proper to add, that, though the female *cocci* are stationary, and seldom remove from the place to which they stick, yet the male is a winged insect; and that the black dust which I saw was undoubtedly the excrement of the females, which is eaten by ants as well as flies. Though the utmost severity of our winter did not destroy these insects, yet the attention of the gardener in a summer or two has entirely relieved my vine from this filthy annoyance.

As we have remarked above that insects are often conveyed from one country to another in a very unaccountable manner, I shall here mention an emigration of small *aphides*, which was observed in the village of *Selborne* no longer ago than *August* the 1st, 1785.

At about three o'clock in the afternoon of that day, which was very hot, the people of this village were surprised by a shower of *aphides*, or *smother-flies*, which fell in these parts. Those that were walking in the street at that juncture found themselves covered with these insects, which settled also on the hedges and gardens, blackening all the vegetables where they alighted. My annuals were discoloured with them, and the stalks of a bed of onions were quite coated over for six days after. These armies were then, no doubt, in a state of emigration, and shifting their quarters; and might have come, as far as we know, from the great hop-plantations of *Kent* or *Sussex*, the wind being all that day in the easterly quarter. They were observed at the same time in great clouds about *Farnham*, and all along the vale from *Farnham* to *Alton*.[a]

* [Reaum. 'Hist. des Insectes,' vol. iv. tab. vi. figs. 5–7. See also Kirby and Spence, vol. i. pp. 193–316, and vol. iii. p. 77; Gard. Chron. 1842, p. 840; and Johnson's Cott. Gard. Dict. 1863, p. 233, with a woodcut from a drawing by Westwood.—T. B.]

[a] For various methods by which several insects shift their quarters, se *Derham's* Physico-Theology.

LETTER LIV.*

TO THE SAME.

Dear Sir,

When I happen to visit a family where *gold* and *silver fishes* are kept in a glass bowl, I am always pleased with the occurrence, because it offers me an opportunity of observing the actions and propensities of those beings with whom we can be little acquainted in their natural state. Not long since I spent a fortnight at the house of a friend where there was such a *vivary*, to which I paid no small attention, taking every occasion to remark what passed within it's narrow limits. It was here that I first observed the manner in which fishes die. As soon as the creature sickens, the head sinks lower and lower, and it stands as it were on it's head; till, getting weaker, and losing all poise, the tail turns over, and at last it floats on the surface of the water with it's belly uppermost. The reason why fishes, when dead, swim in that manner is very obvious; because, when the body is no longer balanced by the fins of the belly, the broad muscular back preponderates by it's own gravity, and turns the belly uppermost, as lighter from it's being a cavity, and because it contains the swimming-bladders, which contribute to render it buoyant. Some that delight in *gold* and *silver fishes* have adopted a notion that they need no aliment. True it is that they will subsist for a long time without any apparent food but what they can collect from pure water frequently changed; yet they must draw some support from animalcula, and other nourishment supplied by the water; because, though they seem to eat nothing, yet the consequences of eating often

* [Note by Mr. Bennett:—
"First published in the 'Gentleman's Magazine' for 1786 (vol. lvi. p. 488), with the date of June 12, and under the signature of V.—E. T. B."]

drop from them. That they are best pleased with such *jejune* diet may easily be confuted, since if you toss them crumbs they will seize them with great readiness, not to say greediness: however, bread should be given sparingly, lest, turning sour, it corrupt the water. They will also feed on the water-plant called *lemna (duck's meat,)* and also on small fry.

When they want to move a little they gently protrude themselves with their *pinnæ pectorales;* but it is with their strong muscular tails only that they and all fishes shoot along with such inconceivable rapidity. It has been said that the eyes of fishes are immoveable: but these apparently turn them forward or backward in their sockets as their occasions require. They take little notice of a lighted candle, though applied close to their heads, but flounce and seem much frightened by a sudden stroke of the hand against the support whereon the bowl is hung; especially when they have been motionless, and are perhaps asleep. As fishes have no eyelids, it is not easy to discern when they are sleeping or not, because their eyes are always open.

Nothing can be more amusing than a glass bowl containing such fishes: the double refractions of the glass and water represent them, when moving, in a shifting and changeable variety of dimensions, shades, and colours; while the two mediums, assisted by the concavo-convex shape of the vessel, magnify and distort them vastly; not to mention that the introduction of another element and it's inhabitants into our parlours engages the fancy in a very agreeable manner.

Gold and *silver fishes*, though originally natives of *China* and *Japan*, yet are become so well reconciled to our climate as to thrive and multiply very fast in our ponds and stews. *Linnæus* ranks this species of fish under the genus of *cyprinus*, or *carp*, and calls it *cyprinus auratus*.

Some people exhibit this sort of fish in a very fanciful way; for they cause a glass bowl to be blown with a large hollow space within, that does not communicate with it. In this cavity they put a bird occasionally; so that you may see a goldfinch or a linnet hopping as it were in the midst of the

water, and the fishes swimming in a circle round it. The simple exhibition of the fishes is agreeable and pleasant; but in so complicated a way becomes whimsical and unnatural, and liable to the objection due to him,

"Qui variare cupit rem prodigialitèr unam."

I am, &c.

LETTER LV.

TO THE SAME.

October 10, 1781.

Dear Sir,

I think I have observed before that much the most considerable part of the *house-martins* withdraw from hence about the first week in *October;* but that some, the latter broods I am now convinced, linger on till towards the middle of that month: and that at times, once perhaps in two or three years, a flight, for one day only, has shown itself in the first week of *November.*

Having taken notice, in *October* 1780, that the last flight was numerous, amounting perhaps to one hundred and fifty; and that the season was soft and still; I was resolved to pay uncommon attention to these late birds; to find, if possible, where they roosted, and to determine the precise time of their retreat. The mode of life of these latter *hirundines* is very favourable to such a design; for they spend the whole day in the sheltered district, between me and the *Hanger,* sailing about in a placid, easy manner, and feasting on those insects which love to haunt a spot so secure from ruffling winds. As my principal object was to discover the place of their roosting, I took care to wait on them before they retired to rest, and was much pleased to find that, for several evenings together, just at a quarter past five in the afternoon, they all scudded away in great haste towards the south-east, and darted down among the low shrubs above the cottages at the

end of the hill. This spot in many respects seems to be well calculated for their winter residence: for in many parts it is as steep as the roof of any house, and therefore secure from the annoyances of water; and it is moreover clothed with beechen shrubs, which, being stunted and bitten by sheep, make the thickest covert imaginable; and are so entangled as to be impervious to the smallest spaniel: besides, it is the nature of underwood beech never to cast it's leaf all the winter; so that, with the leaves on the ground and those on the twigs, no shelter can be more complete. I watched them on to the thirteenth and fourteenth of *October*, and found their evening retreat was exact and uniform; but after this they made no regular appearance. Now and then a straggler was seen; and on the twenty-second of *October*, I observed two in the morning over the village, and with them my remarks for the season ended.

From all these circumstances put together, it is more than probable that this lingering flight, at so late a season of the year, never departed from the island. Had they indulged me that autumn with a *November* visit, as I much desired, I presume that, with proper assistants, I should have settled the matter past all doubt; but though the third of *November* was a sweet day, and in appearance exactly suited to my wishes, yet not a martin was to be seen; and so I was forced, reluctantly, to give up the pursuit.

I have only to add that were the bushes, which cover some acres, and are not my own property, to be grubbed and carefully examined, probably those late broods, and perhaps the whole aggregate body of the house-martins of this district, might be found there, in different secret dormitories; and that, so far from withdrawing into warmer climes, it would appear that they never depart three hundred yards from the village.

LETTER LVI.

TO THE SAME.

They who write on natural history cannot too frequently advert to *instinct*, that wonderful limited faculty, which, in some instances, raises the brute creation as it were above *reason*, and in others leaves them so far below it. Philosophers have defined *instinct* to be that secret influence by which every species is impelled naturally to pursue, at all times, the same way or track, without any teaching or example; whereas *reason*, without instruction, would often vary and do that by many methods which *instinct* effects by one alone. Now this maxim must be taken in a qualified sense; for there are instances in which *instinct* does vary and conform to the circumstances of place and convenience.

It has been remarked that every species of bird has a mode of nidification peculiar to itself; so that a school-boy would at once pronounce on the sort of nest before him. This is the case among fields and woods, and wilds; but, in the villages round *London*, where mosses and gossamer, and cotton from vegetables, are hardly to be found, the nest of the *chaffinch* has not that elegant finished appearance, nor is it so beautifully studded with lichens, as in a more rural district: and the *wren* is obliged to construct it's house with straws and dry grasses, which do not give it that rotundity and compactness so remarkable in the edifices of that little architect. Again, the regular nest of the *house-martin* is hemispheric; but where a rafter, or a joist, or a cornice, may happen to stand in the way, the nest is so contrived as to conform to the obstruction, and becomes flat or oval, or compressed.

In the following instances *instinct* is perfectly uniform and consistent. There are three creatures, the *squirrel*, the *field-mouse*, and the bird called the *nut-hatch*, *(sitta Europœa)*,

which live much on hazle-nuts; and yet they open them each in a different way. The first, after rasping off the small end, splits the shell in two with his long fore-teeth, as a man does with his knife; the second nibbles a hole with his teeth, so regular as if drilled with a wimble, and yet so small that one would wonder how the kernel can be extracted through it; while the last picks an irregular ragged hole with it's bill: but as this artist has no paws to hold the nut firm while he pierces it, like an adroit workman, he fixes it, as it were in a vice, in some cleft of a tree, or in some crevice; when, standing over it, he perforates the stubborn shell. We have often placed nuts in the chink of a gate-post where *nut-hatches* have been known to haunt, and have always found that those birds have readily penetrated them. While at work they make a rapping noise that may be heard at a considerable distance.

You that understand both the theory and practical part of music may best inform us why *harmony* or *melody* should so strangely affect some men, as it were by recollection, for days after a concert is over. What I mean the following passage will most readily explain:

"Præhabebat porrò vocibus humanis, instrumentisque har-
"monicis musicam illam avium: non quod aliâ quoque non
"delectaretur; sed quod ex musicâ humanâ relinqueretur in
"animo continens quædam, attentionemque et somnum con-
"turbans agitatio; dum ascensus, exscensus, tenores, ac mu-
"tationes illæ sonorum, et consonantiarum euntque, redeunt-
"que per phantasiam:—cum nihil tale relinqui possit ex
"modulationibus avium, quæ, quod non sunt perinde a nobis
"imitabiles, non possunt perinde internam facultatem com-
"movere." *Gassendus in Vitâ Peireskii.*

This curious quotation strikes me much by so well representing my own case, and by describing what I have so often felt, but never could so well express. When I hear fine music I am haunted with passages therefrom night and day; and especially at first waking, which, by their importunity, give me more uneasiness than pleasure: elegant lessons still tease my imagination, and recur irresistibly to my recollection

at seasons, and even when I am desirous of thinking of more serious matters *.

I am, &c.

LETTER LVII.

TO THE SAME.

A RARE, and I think a new, little bird frequents my garden, which I have great reason to think is the *pettichaps:* it is common in some parts of the kingdom; and I have received formerly several dead specimens from *Gibraltar*. This bird much resembles the *white-throat*, but has a more white or rather silvery breast and belly; is restless and active, like the *willow-wrens*, and hops from bough to bough, examining every part for food; it also runs up the stems of the *crown-imperials*, and, putting it's head into the bells of those flowers, sips the liquor which stands in the *nectarium* of each petal. Sometimes it feeds on the ground, like the *hedge-sparrow*, by hopping about on the grass-plots and mown walks.

One of my neighbours, an intelligent and observing man, informs me that, in the beginning of *May*, and about ten minutes before eight o'clock in the evening, he discovered a great cluster of *house-swallows*, thirty at least he supposes, perching on a willow that hung over the verge of *James Knight's* upper-pond. His attention was first drawn by the twittering of these birds, which sat motionless in a row on the bough, with their heads all one way, and, by their weight, pressing down the twig so that it nearly touched the water. In this situation he watched them till he could see no longer.

* [That Gilbert White was very much impressed by this passage in Gassendi's life of his friend and patron Peiresc is shown by the remarkable fact that he quotes the same passage with the same remarks upon it, and a similar allusion to his own experience, in a letter to his niece Mary White, and in a letter to Mr. Churton, both which letters will be found in the appendix. These manifest his great fondness for music, and show also that he was not deficient in musical memory.—T. B.]

Repeated accounts of this sort, spring and fall, induce us greatly to suspect that *house-swallows* have some strong attachment to water, independent of the matter of food; and, though they may not retire into that element, yet they may conceal themselves in the banks of pools and rivers during the uncomfortable months of winter.

One of the keepers of *Wolmer-forest* sent me a *peregrine-falcon*, which he shot on the verge of that district as it was devouring a wood-pigeon. The *falco peregrinus*, or *haggard falcon*, is a noble species of hawk seldom seen in the southern counties*. In winter 1767 one was killed in the neighbouring parish of *Faringdon*, and sent by me to Mr. *Pennant* into *North-Wales*.[b] Since that time I have met with none till now. The specimen measured above was in fine preservation, and not injured by the shot: it measured forty-two inches from wing to wing, and twenty-one from beak to tail, and weighed two pounds and an half standing weight. This species is very robust, and wonderfully formed for rapine: it's breast was plump and muscular; it's thighs long, thick, and brawny; and it's legs remarkably short and well set: the feet were armed with most formidable, sharp, long talons: the eyelids and cere of the bill were yellow; but the irides of the eyes dusky; the beak was thick and hooked, and of a dark colour, and had a jagged process near the end of the upper mandible on each side: it's tail, or train, was short in proportion to the bulk of it's body: yet the wings, when closed, did not extend to the end of the train. From it's large and fair proportions it might be supposed to have been a female; but I was not permitted to cut open the specimen. For one of the birds of prey, which are usually lean, this was in high case: in it's craw were many barley-corns, which probably

* [Professor Newton makes the following observation on this passage: "This is a complete mistake. The species breeds, or used to breed, all along the south coast, where the cliffs are steep enough, from Sussex to Devonshire, if not from Kent to Cornwall. White does not seem to have known that this was the common falcon used by falconers. Its occurrence in the interior is by no means infrequent."—T. B.]

[b] See my tenth and eleventh letter to that gentleman.

came from the crop of the wood-pigeon, on which it was feeding when shot: for voracious birds do not eat grain; but, when devouring their quarry, with undistinguishing vehemence swallow bones and feathers, and all matters, indiscriminately. This falcon was probably driven from the mountains of *North Wales* or *Scotland*, where they are known to breed, by rigorous weather and deep snows that had lately fallen *.

I am, &c.

LETTER LVIII.

TO THE SAME.

My near neighbour, a young gentleman in the service of the *East-India* Company, has brought home a dog and a bitch of the *Chinese* breed from *Canton;* such as are fattened in that country for the purpose of being eaten: they are about the size of a moderate spaniel; of a pale yellow colour, with coarse bristling hairs on their backs; sharp upright ears, and peaked heads, which give them a very fox-like appearance. Their hind legs are unusually straight, without any bend at the hock or ham, to such a degree as to give them an awkward gait when they trot. When they are in motion their tails are curved high over their backs like those of some

* [About the year 1860, as I was walking with the late Rev. Robert Tindall from Empshott towards Selborne, a Peregrine falcon crossed the road before us, flying from Nore Hill on our left towards a wood on our right. Mr. Tindall informed me that the hobby has also been shot on Nore Hill; and I saw one in his collection from that locality. The late Dr. John Curtis includes both these species as having occurred near Alton. The occurrence of Montagu's harrier (*Circus cineraceus*, Mont.) in this neighbourhood is an interesting fact. A pair of them were shot in May 1850 at Newton Valence by Mr. Eames, of Faringdon. It was about the same time that I saw a bird which I believe to be of this species flying across a field at the last-named place. Dr. Curtis also mentions it as having occurred near Alton; and there is a stuffed specimen in the Alton Museum.—T. B.]

hounds, and have a bare place each on the outside from the tip midway, that does not seem to be matter of accident, but somewhat singular. Their eyes are jet-black, small, and piercing; the insides of their lips and mouths of the same colour, and their tongues blue. The bitch has a dew claw on each hind leg; the dog has none. When taken out into a field the bitch showed some disposition for hunting, and dwelt on the scent of a covey of partridges till she sprung them, giving her tongue all the time. The dogs in *South America* are dumb; but these bark much in a short thick manner, like foxes; and have a surly, savage demeanour like their ancestors, which are not domesticated, but bred up in sties, where they are fed for the table with rice-meal and other farinaceous food. These dogs, having been taken on board as soon as weaned, could not learn much from their dam; yet they did not relish flesh when they came to *England*. In the islands of the *pacific* ocean the dogs are bred up on vegetables, and would not eat flesh when offered them by our circumnavigators.

We believe that all dogs, in a state of nature, have sharp, upright fox-like ears; and that hanging ears, which are esteemed so graceful, are the effect of choice breeding and cultivation. Thus, in the Travels of *Ysbrandt Ides* from *Muscovy* to *China*, the dogs which draw the *Tartars* on snow-sledges near the river *Oby* are engraved with prick-ears, like those from *Canton*. The *Kamschatdales* also train the same sort of sharp-eared peaked-nosed dogs to draw their sledges; as may be seen in an elegant print engraved for Captain *Cook's* last voyage round the world.

Now we are upon the subject of dogs it may not be impertinent to add, that spaniels, as all sportsmen know, though they hunt partridges and pheasants as it were by instinct, and with much delight and alacrity, yet will hardly touch their bones when offered as food; nor will a mongrel dog of my own, though he is remarkable for finding that sort of game. But, when we came to offer the bones of partridges to the two *Chinese* dogs, they devoured them with much greediness, and licked the platter clean.

No sporting dogs will flush woodcocks till inured to the scent and trained to the sport, which they then pursue with vehemence and transport; but then they will not touch their bones, but turn from them with abhorrence, even when they are hungry.

Now, that dogs should not be fond of the bones of such birds as they are not disposed to hunt is no wonder; but why they reject and do not care to eat their natural game is not so easily accounted for, since the end of hunting seems to be, that the chase pursued should be eaten. Dogs again will not devour the more rancid water-fowls, nor indeed the bones of any wild-fowls; nor will they touch the fœtid bodies of birds that feed on offal and garbage: and indeed there may be somewhat of providential instinct in this circumstance of dislike; for vultures,[c] and kites, and ravens, and crows, &c. were intended to be messmates with dogs[d] over their carrion; and seem to be appointed by Nature as fellow-scavengers to remove all cadaverous nuisances from the face of the earth.

I am, &c.

LETTER LIX.

TO THE SAME.

THE fossil wood buried in the bogs of *Wolmer-forest* is not yet all exhausted; for the peat-cutters now and then stumble upon a log. I have just seen a piece which was sent by a labourer of *Oakhanger* to a carpenter of this village; this was the but-end of a small oak, about five feet long, and about five inches in diameter. It had apparently been severed from the ground by an axe, was very ponderous, and as black as ebony. Upon asking the carpenter for what purpose he had

[c] *Hasselquist*, in his Travels to the *Levant*, observes that the dogs and vultures at *Grand Cairo* maintain such a friendly intercourse as to bring up their young together in the same place.

[d] The *Chinese* word for a dog to an *European* ear sounds like *quihloh*.

procured it; he told me that it was to be sent to his brother, a joiner at *Farnham*, who was to make use of it in cabinet work, by inlaying it along with whiter woods.

Those that are much abroad on evenings after it is dark, in spring and summer, frequently hear a nocturnal bird passing by on the wing, and repeating often a short quick note. This bird I have remarked myself, but never could make out till lately. I am assured now that it is the *Stone-curlew*, *(charadrius oedicnemus.)* Some of them pass over or near my house almost every evening after it is dark, from the uplands of the hill and *North field*, away down towards *Dorton;* where, among the streams and meadows, they find a greater plenty of food. Birds that fly by night are obliged to be noisy; their notes often repeated become signals or watch-words to keep them together, that they may not stray or lose each the other in the dark.

The evening proceedings and manœuvres of the rooks are curious and amusing in the autumn. Just before dusk they return in long strings from the foraging of the day, and rendezvous by thousands over *Selborne-down*, where they wheel round in the air, and sport and dive in a playful manner, all the while exerting their voices, and making a loud cawing, which, being blended and softened by the distance that we at the village are below them, becomes a confused noise or chiding; or rather a pleasing murmur, very engaging to the imagination, and not unlike the cry of a pack of hounds in hollow, echoing woods, or the rushing of the wind in tall trees, or the tumbling of the tide upon a pebbly shore. When this ceremony is over, with the last gleam of day, they retire for the night to the deep beechen woods of *Tisted* and *Ropley*. We remember a little girl who, as she was going to bed, used to remark on such an occurrence, in the true spirit of *physico-theology*, that the rooks were saying their prayers; and yet this child was much too young to be aware that the scriptures have said of the Deity—that "he feedeth the ravens who call upon him."

I am, &c.

LETTER LX.

TO THE SAME.

In reading Dr. *Huxham's Observationes de Aëre*, &c., written at *Plymouth*, I find by those curious and accurate remarks, which contain an account of the weather from the year 1727 to the year 1748, inclusive, that though there is frequent rain in that district of *Devonshire*, yet the quantity falling is not great; and that some years it has been very small: for in 1731 the rain measured only 17^{inch}.—266^{thou}. and in 1741, 20—354; and again in 1743 only 20—908. Places near the sea have frequent scuds, that keep the atmosphere moist, yet do not reach far up into the country; making thus the maritime situations appear wet, when the rain is not considerable. In the wettest years at *Plymouth* the Doctor measured only once 36; and again once, viz. 1734, 37—114: a quantity of rain that has twice been exceeded at *Selborne* in the short period of my observations. Dr. *Huxham* remarks, that frequent small rains keep the air moist; while heavy ones render it more dry, by beating down the vapours. He is also of opinion that the *dingy, smoky appearance* of the sky, in very dry seasons, arises from the want of moisture sufficient to let the light through, and render the atmosphere transparent; because he had observed several bodies more diaphanous when wet than dry; and did never recollect that the air had that look in rainy seasons.

My friend, who lives just beyond the top of the down, brought his three swivel guns to try them in my outlet, with their muzzles towards the *Hanger*, supposing that the report would have had a great effect; but the experiment did not answer his expectation. He then removed them to the *Alcove* on the *Hanger;* when the sound, rushing along the *Lythe* and *Comb-wood*, was very grand: but it was at the *Hermitage* that the echoes and repercussions delighted the hearers; not only filling the *Lythe* with the roar, as if all the beeches were tearing up by the roots; but, turning to the left, they per-

vaded the vale above *Combwood-ponds;* and after a pause seemed to take up the crash again, and to extend round *Harteley-hangers*, and to die away at last among the coppices and coverts of *Ward le ham.* It has been remarked before that this district is an *anathoth*, a place of responses or echoes, and therefore proper for such experiments: we may farther add that the pauses in echoes, when they cease and yet are taken up again, like the pauses in music, surprise the hearers, and have a fine effect on the imagination.

The gentleman above mentioned has just fixed a barometer in his parlour at *Newton Valence.* The tube was first filled here (at *Selborne*) twice with care, when the mercury agreed and stood exactly with my own; but, being filled again twice at *Newton*, the mercury stood, on account of the great elevation of that house, three-tenths of an inch lower than the barometers at this village, and so continues to do, be the weight of the atmosphere what it may. The plate of the barometer at *Newton* is figured as low as 27; because in stormy weather the mercury there will sometimes descend below 28. We have supposed *Newton-house* to stand two hundred feet higher than this house: but if the rule holds good, which says that mercury in a barometer sinks one-tenth of an inch for every hundred feet elevation, then the *Newton* barometer, by standing three-tenths lower than that of *Selborne*, proves that *Newton-house* must be three hundred feet higher than that in which I am writing, instead of two hundred.

It may not be impertinent to add, that the barometers at *Selborne* stand three-tenths of an inch lower than the barometers at *South Lambeth;* whence we may conclude that the former place is about three hundred feet higher than the latter; and with good reason, because the streams that rise with us run into the *Thames* at *Weybridge*, and so to *London.* Of course therefore there must be lower ground all the way from *Selborne* to *South Lambeth;* the distance between which, all the windings and indentings of the streams considered, cannot be less than an hundred miles *.

I am, &c.

* [I find by means of a good aneroid barometer that the highest part

LETTER LXI.

TO THE SAME.

SINCE the weather of a district is undoubtedly part of it's natural history, I shall make no further apology for the four following letters, which will contain many particulars concerning some of the great frosts and a few respecting some very hot summers, that have distinguished themselves from the rest during the course of my observations.

As the frost in *January* 1768 was, for the small time it lasted, the most severe that we had then known for many years, and was remarkably injurious to ever-greens, some account of it's rigour, and reason of it's ravages, may be useful, and not unacceptable to persons that delight in planting and ornamenting; and may particularly become a work that professes never to lose sight of utility.

For the last two or three days of the former year there were considerable falls of snow, which lay deep and uniform on the ground without any drifting, wrapping up the more humble vegetation in perfect security. From the first day to the fifth of the new year more snow succeeded; but from

of Selborne Hill is nearly or quite 300 feet above the house at Selborne; and Newton Vicarage, on the same hill, is not far from that elevation. The barometer fitted by Gilbert White himself, and doubtless the one to which he alludes in this letter, is still in the old place, fixed at the end of his own bookcase; and what is worthy of notice, besides the graduation marked on the tube itself, there is by its side a small ivory plate, graduated nearly ·3 of an inch lower than the Selborne reading, and which doubtless was intended to show at a glance the height of the mercury at his nephew's parsonage at Newton Valence, where a similar instrument still exists, attached to the bookcase in the study, with a graduated ivory plate by its side, and the tube of the same size. The Newton tradition assigns the construction and fixing of this instrument to Gilbert White; and there can be no doubt of its correctness. Thus both the barometers mentioned in the letter are still in existence, and in working order. My friend and neighbour, the Rev. A. N. C. Maclachlan, the present incumbent, preserves the Newton one with a sacred care.—T. B.]

that day the air became entirely clear; and the heat of the sun about noon had a considerable influence in sheltered situations.

It was in such an aspect that the snow on the author's ever-greens was melted every day, and frozen intensely every night; so that the laurustines, bays, laurels, and arbutuses looked, in three or four days, as if they had been burnt in the fire; while a neighbour's plantation of the same kind, in a high cold situation, where the snow was never melted at all, remained uninjured.

From hence I would infer that it is the repeated melting and freezing of the snow that is so fatal to vegetation, rather than the severity of the cold. Therefore it highly behoves every planter, who wishes to escape the cruel mortification of losing in a few days the labour and hopes of years, to bestir himself on such emergencies; and, if his plantations are small, to avail himself of mats, cloths, pease-haum, straw, reeds, or any such covering, for a short time; or, if his shrubberies are extensive, to see that his people go about with prongs and forks, and carefully dislodge the snow from the boughs, since the naked foliage will shift much better for itself, than where the snow is partly melted and frozen again.

It may perhaps appear at first like a paradox; but doubtless the more tender trees and shrubs should never be planted in hot aspects; not only for the reason assigned above, but also because, thus circumstanced, they are disposed to shoot earlier in the spring, and grow on later in the autumn than they would otherwise do, and so are sufferers by lagging or early frosts. For this reason also plants from *Siberia* will hardly endure our climate: because, on the very first advances of spring, they shoot away, and so are cut off by the severe nights of *March* or *April*.

Dr. *Fothergill* and others have experienced the same inconvenience with respect to the more tender shrubs from *North-America;* which they therefore plant under north-walls. There should also perhaps be a wall to the east to defend them from the piercing blasts from that quarter.

This observation might without any impropriety be carried

into animal life; for discerning bee-masters now find that their hives should not in the winter be exposed to the hot sun, because such unseasonable warmth awakens the inhabitants too early from their slumbers; and, by putting their juices into motion too soon, subjects them afterwards to inconveniences when rigorous weather returns.

The coincidents attending this short but intense frost were, that the horses fell sick with an epidemic distemper, which injured the winds of many, and killed some; that colds and coughs were general among the human species; that it froze under people's beds for several nights; that meat was so hard frozen that it could not be spitted, and could not be secured but in cellars; that several redwings and thrushes were killed by the frost; and that the large titmouse continued to pull straws lengthwise from the eaves of thatched houses and barns in a most adroit manner, for a purpose that has been explained already.[e]

On the 3d of *January*, *Benjamin Martin's* thermometer within doors, in a close parlour where there was no fire, fell in the night to 20, and on the 4th to 18, and the 7th to $17\frac{1}{2}$, a degree of cold which the owner never since saw in the same situation; and he regrets much that he was not able at that juncture to attend his instrument abroad. All this time the wind continued north and north-east; and yet on the 8th roost-cocks, which had been silent, began to sound their clarions, and crows to clamour, as prognostic of milder weather; and, moreover, moles began to heave and work, and a manifest thaw took place. From the latter circumstance we may conclude that thaws often originate under ground from warm vapours which arise; else how should subterraneous animals receive such early intimations of their approach? Moreover, we have often observed that cold seems to descend from above; for, when a thermometer hangs abroad in a frosty night, the intervention of a cloud shall immediately raise the mercury ten degrees; and a clear sky shall again compel it to descend to it's former gage.

And here it may be proper to observe, on what has been

[e] See Letter xli. to Mr. *Pennant*.

said above, that though frosts advance to their utmost severity by somewhat of a regular gradation, yet thaws do not usually come on by as regular a declension of cold; but often take place immediately from intense freezing; as men in sickness often mend at once from a paroxysm.

To the great credit of *Portugal* laurels and *American* junipers, be it remembered that they remained untouched amidst the general havock: hence men shonld learn to ornament chiefly with such trees as are able to withstand accidental severities, and not subject themselves to the vexation of a loss which may befall them once perhaps in ten years, yet may hardly be recovered through the whole course of their lives.

As it appeared afterwards the ilexes were much injured, the cypresses were half destroyed, the arbutuses lingered on, but never recovered; and the bays, laurustines, and laurels, were killed to the ground; and the very wild hollies, in hot aspects, were so much affected that they cast all their leaves.

By the 14th of *January* the snow was entirely gone; the turnips emerged not damaged at all, save in sunny places; the wheat looked delicately, and the garden plants were well preserved; for snow is the most kindly mantle that infant vegetation can be wrapped in: were it not for that friendly meteor no vegetable life could exist at all in northerly regions. Yet in *Sweden* the earth in *April* is not divested of snow for more than a fortnight before the face of the country is covered with flowers.

LETTER LXII.

TO THE SAME.

THERE were some circumstances attending the remarkable frost in *January* 1776 so singular and striking, that a short detail of them may not be unacceptable.

The most certain way to be exact will be to copy the passages from my journal, which were taken from time to time

as things occurred. But it may be proper previously to remark that the first week in *January* was uncommonly wet, and drowned with vast rains from every quarter: from whence may be inferred, as there is great reason to believe is the case, that intense frosts seldom take place till the earth is perfectly glutted and chilled with water;[f] and hence dry autumns are seldom followed by rigorous winters.

January 7th.—Snow driving all the day, which was followed by frost, sleet, and some snow, till the 12th, when a prodigious mass overwhelmed all the works of men, drifting over the tops of the gates and filling the hollow lanes.

On the 14th the writer was obliged to be much abroad; and thinks he never before or since has encountered such rugged *Siberian* weather. Many of the narrow roads were now filled above the tops of the hedges; through which the snow was driven into most romantic and grotesque shapes, so striking to the imagination as not to be seen without wonder and pleasure. The poultry dared not to stir out of their roosting-places; for cocks and hens are so dazzled and confounded by the glare of snow that they would soon perish without assistance. The hares also lay sullenly in their seats, and would not move till compelled by hunger; being conscious, poor animals, that the drifts and heaps treacherously betray their footsteps, and prove fatal to numbers of them.

From the 14th the snow continued to increase, and began to stop the road waggons and coaches, which could no longer keep on their regular stages; and especially on the western roads, where the fall appears to have been deeper than in the south. The company at *Bath*, that wanted to attend the *Queen's birth-day*, were strangely incommoded: many carriages of persons, who got in their way to town from *Bath* as far as *Marlborough*, after strange embarrassments, here met with a *ne plus ultra*. The ladies fretted, and offered large rewards to labourers, if they would shovel them a track to

[f] The autumn preceding *January* 1768 was very wet, and particularly the month of *September*, during which there fell at *Lyndon*, in the county of *Rutland, six inches and an half* of rain. And the terrible long frost of 1739–40 set in after a rainy season, and when the springs were very high.

London: but the relentless heaps of snow were too bulky to be removed; and so the 18th passed over, leaving the company in very uncomfortable circumstances at the *Castle* and other inns.*

On the 20th the sun shone out for the first time since the frost began; a circumstance that has been remarked before much in favour of vegetation. All this time the cold was not very intense, for the thermometer stood at 29, 28, 25, and thereabout; but on the 21st it descended to 20. The birds now began to be in a very pitiable and starving condition. Tamed by the season, sky-larks settled in the streets of towns, because they saw the ground was bare; rooks frequented dunghills close to houses; and crows watched horses as they passed, and greedily devoured what dropped from them; hares now came into men's gardens, and, scraping away the snow, devoured such plants as they could find.

On the 22d the author had occasion to go to *London* through a sort of *Laplandian-scene*, very wild and grotesque indeed. But the metropolis itself exhibited a still more singular appearance than the country; for, being bedded deep in snow, the pavement of the streets could not be touched by the wheels or the horses' feet, so that the carriages ran about without the least noise. Such an exemption from din and clatter was strange, but not pleasant; it seemed to convey an uncomfortable idea of desolation:

"— — — — — — — — — ipsa silentia terrent."

On the 27th much snow fell all day, and in the evening the frost became very intense. At *South Lambeth*, for the four following nights, the thermometer fell to 11, 7, 6, 6; and at

* ["Mrs. Colebrook invited her" [Caroline Herschel] "to go to London on a visit. This visit was prolonged for several weeks owing to the deep snow, which rendered the roads impassable. The Duchess of Ancaster is said to have offered any sum to have a passage cut near Devizes, but without success; her Grace was in consequence unable to be present on the 18th January, when the Queen's birthday was kept." From 'Memoir and Correspondence of Caroline Herschel,' by Mrs. John Herschel (London, 1876, p. 34). Mrs. John Herschel places the event in 1774–1775, which is most likely an error, as such a thing could hardly have happened twice.—A. N.]

Selborne to 7, 6, 10 ; and on the 31st of *January*, just before sunrise, with rime on the trees and on the tube of the glass, the quicksilver sunk exactly to zero, being 32 degrees below the freezing point : but by eleven in the morning, though in the shade, it sprung up to $16\frac{1}{2}$[g]—a most unusual degree of cold this for the south of *England!* During these four nights the cold was so penetrating that it occasioned ice in warm chambers and under beds ; and in the day the wind was so keen that persons of robust constitutions could scarcely endure to face it. The *Thames* was at once so frozen over both above and below bridge that crowds ran about on the ice. The streets were now strangely incumbered with snow, which crumbled and trod dusty ; and, turning grey, resembled bay-salt ; what had fallen on the roofs was so perfectly dry that, from first to last, it lay twenty-six days on the houses in the city ; a longer time than had been remembered by the oldest housekeepers living. According to all appearances we might now have expected the continuance of this rigorous weather for weeks to come, since every night increased in severity ; but behold, without any apparent cause, on the 1st of *February* a thaw took place, and some rain followed before night ; making good the observation above, that frosts often go off as it were at once, without any gradual declension of cold. On the 2d of *February* the thaw persisted ; and on the 3d swarms of little insects were frisking and sporting in a court-yard at *South Lambeth*, as if they had felt no frost. Why the juices in the small bodies and smaller limbs of such minute beings are not frozen is a matter of curious inquiry.

Severe frosts seem to be partial, or to run in currents ; for, at the same juncture, as the author was informed by accurate correspondents, at *Lyndon* in the county of *Rutland*, the thermometer stood at 19 : at *Blackburn*, in *Lancashire*, at 19: and at *Manchester* at 21, 20, and 18. Thus does some un-

[g] At *Selborne* the cold was greater than at any other place that the author could hear of with certainty : though some reported at the time that at a village in *Kent* the thermometer fell two degrees below zero, *viz.* 34 degrees below the freezing point.

The thermometer used at *Selborne* was graduated by *Benjamin Martin.*

known circumstance strangely overbalance latitude, and render the cold sometimes much greater in the southern than in the northern parts of this kingdom.

The consequences of this severity were, that in *Hampshire*, at the melting of the snow, the wheat looked well, and the turnips came forth little injured. The laurels and laurustines were somewhat damaged, but only in *hot aspects*. No evergreens were quite destroyed; and not half the damage sustained that befell in *January* 1768. Those laurels that were a little scorched on the south-sides were perfectly untouched on their north-sides. The care taken to shake the snow day by day from the branches seemed greatly to avail the author's evergreens. A neighbour's laurel-hedge, in a high situation, and facing to the north, was perfectly green and vigorous; and the *Portugal laurels* remained unhurt.

As to the birds, the thrushes and blackbirds were mostly destroyed; and the partridges, by the weather and poachers, were so thinned that few remained to breed the following year.

LETTER LXIII.

TO THE SAME.

As the frost in *December* 1784 was very extraordinary, you, I trust, will not be displeased to hear the particulars; and especially when I promise to say no more about the severities of winter after I have finished this letter.

The first week in *December* was very wet, with the barometer very low. On the 7th, with the barometer at 28—five tenths, came on a vast snow, which continued all that day and the next, and most part of the following night; so that by the morning of the 9th the works of men were quite overwhelmed, the lanes filled so as to be impassable, and the ground covered twelve or fifteen inches without any drifting. In the evening of the 9th the air began to be so very sharp that we thought it would be curious to attend to the motions of a thermometer: we therefore hung out two; one made by *Martin* and

one by *Dollond*, which soon began to shew us what we were to expect; for, by ten o'clock, they fell to 21, and at eleven to 4, when we went to bed. On the 10th, in the morning, the quicksilver of *Dollond's* glass was down to *half a degree below zero;* and that of *Martin's*, which was absurdly graduated only to four degrees *above zero*, sunk quite into the brass guard of the ball; so that when the weather became most interesting this was useless. On the 10th, at eleven at night, though the air was perfectly still, *Dollond's* glass went down to *one degree below zero!* This strange severity of the weather made me very desirous to know what degree of cold there might be in such an exalted and near situation as *Newton*. We had therefore, on the morning of the 10th, written to Mr. ——, and entreated him to hang out his thermometer, made by *Adams;* and to pay some attention to it morning and evening; expecting wonderful phænomena, in so elevated a region, at two hundred feet or more above my house. But, behold! on the 10th, at eleven at night, it was down only to 17, and the next morning at 22, when mine was at ten. We were so disturbed at this unexpected reverse of comparative local cold, that we sent one of my glasses up, thinking that of Mr. —— must, some how, be wrongly constructed. But, when the instruments came to be confronted, they went exactly together: so that, for one night at least, the cold at *Newton* was 18 degrees less than at *Selborne;* and, through the whole frost, 10 or 12 degress; and indeed, when we came to observe consequences, we could readily credit this; for all my laurustines, bays, ilexes, arbutuses, cypresses, and even my *Portugal laurels*,[h] and (which occasions more regret) my fine sloping laurel hedge, were scorched up; while, at *Newton*, the same trees have not lost a leaf!

We had steady frost on to the 25th, when the thermometer in the morning was down to 10 with us, and at *Newton* only to 21. Strong frost continued till the 31st, when some ten-

[h] Mr. *Miller*, in his Gardener's Dictionary, says positively that the *Portugal laurels* remained untouched in the remarkable frost of 1739–40. So that either that accurate observer was much mistaken, or else the frost of *December* 1784 was much more severe and destructive than that in the year above mentioned.

dency to thaw was observed; and, by *January* the 3d, 1785, the thaw was confirmed, and some rain fell.

A circumstance that I must not omit, because it was new to us, is, that on *Friday*, *December* the 10th, being bright sun-shine, the air was full of icy *spiculæ*, floating in all directions, like atoms in a sun-beam let into a dark room. We thought them at first particles of the rime falling from my tall hedges; but were soon convinced to the contrary, by making our observations in open places where no rime could reach us. Were they watery particles of the air frozen as they floated; or were they evaporations from the snow frozen as they mounted?

We were much obliged to the thermometers for the early information they gave us; and hurried our apples, pears, onions, potatoes, &c. into the cellar, and warm closets; while those who had not, or neglected such warnings, lost all their stores of roots and fruits, and had their very bread and cheese frozen.

I must not omit to tell you that, during those two *Siberian* days, my parlour-cat was so electric, that had a person stroked her, and been properly *insulated*, the shock might have been given to a whole circle of people.

I forgot to mention before, that, during the two severe days, two men, who were tracing hares in the snow, had their feet frozen; and two men, who were much better employed, had their fingers so affected by the frost, while they were thrashing in a barn, that a mortification followed, from which they did not recover for many weeks.

This frost killed all the furze and most of the ivy, and in many places stripped the hollies of all their leaves. It came at a very early time of the year, before old *November* ended; and yet it may be allowed from it's effects to have exceeded any since 1739–40.

LETTER LXIV.

TO THE SAME.

As the effects of heat are seldom very remarkable in the

northerly climate of *England*, where the summers are often so defective in warmth and sun-shine as not to ripen the fruits of the earth so well as might be wished, I shall be more concise in my account of the severity of a summer season, and so make a little amends for the prolix account of the degrees of cold, and the inconveniences that we suffered from late rigorous winters.

The summers of 1781 and 1783 were unusually hot and dry; to them therefore I shall turn back in my journals, without recurring to any more distant period. In the former of these years my peach and nectarine-trees suffered so much from the heat that the rind on the bodies was scalded and came off; since which the trees have been in a decaying state. This may prove a hint to assiduous gardeners to fence and shelter their wall-trees with mats or boards, as they may easily do, because such annoyance is seldom of long continuance. During that summer also, I observed that my apples were coddled, as it were, on the trees; so that they had no quickness of flavour, and would not keep in the winter. This circumstance put me in mind of what I have heard travellers assert, that they never ate a good apple or apricot in the south of *Europe*, where the heats were so great as to render the juices vapid and insipid.

The great pests of a garden are wasps, which destroy all the finer fruits just as they are coming into perfection. In 1781 we had none; in 1783 there were myriads; which would have devoured all the produce of my garden, had not we set the boys to take the nests, and caught thousands with hazel twigs tipped with bird-lime: we have since employed the boys to take and destroy the large breeding wasps in the spring. Such expedients have a great effect on these marauders, and will keep them under. Though wasps do not abound but in hot summers, yet they do not prevail in every hot summer, as I have instanced in the two years above mentioned.

In the sultry season of 1783 honey-dews were so frequent as to deface and destroy the beauties of my garden. My honey-suckles, which were one week the most sweet and

lovely objects that the eye could behold, became the next the most loathsome; being enveloped in a viscous substance, and loaded with black aphides, or smother-flies. The occasion of this clammy appearance seems to be this, that in hot weather the effluvia of flowers in fields and meadows and gardens are drawn up in the day by a brisk evaporation, and then in the night fall down again with the dews, in which they are entangled; that the air is strongly scented, and therefore impregnated with the particles of flowers in summer weather, our senses will inform us; and that this clammy sweet substance is of the vegetable kind we may learn from bees, to whom it is very grateful: and we may be assured that it falls in the night, because it is always seen first in warm still mornings.

On chalky and sandy soils, and in the hot villages about *London*, the thermometer has been often observed to mount as high as 83 or 84; but with us, in this hilly and woody district, I have hardly ever seen it exceed 80; nor does it often arrive at that pitch. The reason, I conclude, is, that our dense clayey soil, so much shaded by trees, is not so easily heated through as those above-mentioned: and, besides, our mountains cause currents of air and breezes; and the vast effluvia from our woodlands temper and moderate our heats.

LETTER LXV.

TO THE SAME.

THE summer of the year 1783 was an amazing and portentous one, and full of horrible phænomena; for, besides the alarming meteors and tremendous thunder-storms that affrighted and distressed the different counties of this kingdom, the peculiar *haze*, or smokey fog, that prevailed for many weeks in this island, and in every part of *Europe*, and even beyond it's limits, was a most extraordinary appearance, unlike any thing known within the memory of man. By my journal I find that I had noticed this strange occurrence from *June* 23 to *July* 20 inclusive, during which period the wind varied to

every quarter without making any alteration in the air. The sun, at noon, looked as blank as a clouded moon, and shed a rust-coloured ferruginous light on the ground, and floors of rooms; but was particularly lurid and blood-coloured at rising and setting. All the time the heat was so intense that butchers' meat could hardly be eaten on the day after it was killed; and the flies swarmed so in the lanes and hedges that they rendered the horses half frantic, and riding irksome. The country people began to look with a superstitious awe, at the red, louring aspect of the sun; and indeed there was reason for the most enlightened person to be apprehensive; for, all the while, *Calabria* and part of the isle of *Sicily*, were torn and convulsed with earthquakes; and about that juncture a *volcano* sprung out of the sea on the coast of *Norway*. On this occasion *Milton's* noble simile of the sun, in his first book of *Paradise Lost*, frequently occurred to my mind; and it is indeed particularly applicable, because, towards the end, it alludes to a superstitious kind of dread, with which the minds of men are always impressed by such strange and unusual phænomena.

" — — — As when the *sun*, new risen,
" Looks through the horizontal, *misty* air,
" *Shorn* of his *beams*; or from behind the moon,
" In *dim* eclipse, *disastrous twilight sheds*
" On half the nations, and with *fear* of *change*
" *Perplexes* monarchs. — -- — — — —"

LETTER LXVI.

TO THE SAME.

We are very seldom annoyed with thunder-storms; and it is no less remarkable than true, that those which arise in the south have hardly been known to reach this village; for before they get over us, they take a direction to the east or to the west, or sometimes divide into two, and go in part to one of those quarters, and in part to the other; as was truly the

case in summer 1783, when though the country round was continually harassed with tempests, and often from the south, yet we escaped them all; as appears by my journal of that summer. The only way that I can at all account for this fact —for such it is—is that, on that quarter, between us and the sea, there are continual mountains, hill behind hill, such as *Nore-hill*, the *Barnet*, *Butser-hill*, and *Ports-down*, which some how divert the storms, and give them a different direction. High promontories, and elevated grounds, have always been observed to attract clouds and disarm them of their mischievous contents, which are discharged into the trees and summits as soon as they come in contact with those turbulent meteors; while the humble vales escape, because they are so far beneath them.

But, when I say I do not remember a thunder-storm from the south, I do not mean that we never have suffered from thunder-storms at all; for on *June* 5th, 1784, the thermometer in the morning being at 64, and at noon at 70, the barometer at 29—six tenths one-half, and the wind north, I observed a blue mist, smelling strongly of sulphur, hanging along our sloping woods, and seeming to indicate that thunder was at hand. I was called in about two in the afternoon, and so missed seeing the gathering of the clouds in the north; which they who were abroad assured me had something uncommon in it's appearance. At about a quarter after two the storm began in the parish of *Hartley*, moving slowly from north to south; and from thence it came over *Norton-farm*, and so to *Grange-farm*, both in this parish. It began with vast drops of rain, which were soon succeeded by round hail, and then by convex pieces of ice, which measured three inches in girth. Had it been as extensive as it was violent, and of any continuance (for it was very short), it must have ravaged all the neighbourhood. In the parish of *Hartley* it did some damage to one farm; but *Norton*, which lay in the centre of the storm, was greatly injured; as was *Grange*, which lay next to it. It did but just reach to the middle of the village, where the hail broke my north windows, and all my garden-lights and hand-glasses, and many of my neighbours' windows.

The extent of the storm was about two miles in length and one in breadth. We were just sitting down to dinner; but were soon diverted from our repast by the clattering of tiles and the jingling of glass. There fell at the same time prodigious torrents of rain on the farms above-mentioned, which occasioned a flood as violent as it was sudden: doing great damage to the meadows and fallows, by deluging the one and washing away the soil of the other. The hollow lane towards *Alton* was so torn and disordered as not to be passable till mended, rocks being removed that weighed 200 weight. Those that saw the effect which the great hail had on ponds and pools say that the dashing of the water made an extraordinary appearance, the froth and spray standing up in the air three feet above the surface. The rushing and roaring of the hail, as it approached, was truly tremendous.

Though the clouds at *South Lambeth*, near *London*, were at that juncture thin and light, and no storm was in sight, nor within hearing, yet the air was strongly electric; for the bells of an electric machine at that place rang repeatedly, and fierce sparks were discharged.

When I first took the present work in hand I proposed to have added an *Annus Historico-naturalis*, or the Natural History of the Twelve Months of the Year; which would have comprised many incidents and occurrences that have not fallen in my way to be mentioned in my series of letters;—but, as Mr. *Aikin* of *Warrington* has lately published somewhat of this sort, and as the length of my correspondence has sufficiently put your patience to the test, I shall here take a respectful leave of you and natural history together*;

And am,
With all due deference and regard,
Your most obliged,
And most humble servant,
GIL. WHITE.

Selborne, June 25, 1787.

* [His correspondence with Mr. Marsham (published in the second volume) shows that, so far from fulfilling this intention, his love of natural history continued as intense and his observation as accurate as ever, throughout the remainder of his life.—T. B.]

THE

ANTIQUITIES

OF

SELBORNE,

IN THE

COUNTY OF SOUTHAMPTON.

- - - - - JUVAT IRE - - - -
DESERTOSQUE VIDERE LOCOS - - - - - VIRGIL.

THE ANTIQUITIES OF SELBORNE.

LETTER I.

It is reasonable to suppose that in remote ages this woody and mountainous district was inhabited only by bears and wolves. Whether the *Britons* ever thought it worthy their attention, is not in our power to determine; but we may safely conclude, from circumstances, that it was not unknown to the *Romans*. Old people remember to have heard their fathers and grandfathers say that, in dry summers and in windy weather, pieces of money were sometimes found round the verge of *Wolmer-pond;* and tradition had inspired the foresters with a notion that the bottom of that lake contained great stores of treasure. During the spring and summer of 1740 there was little rain; and the following summer also, 1741, was so uncommonly dry, that many springs and ponds failed, and this lake in particular whose bed became as dusty as the surrounding heaths and wastes. This favourable juncture induced some of the forest-cottagers to begin a search, which was attended with such success, that all the labourers in the neighbourhood flocked to the spot, and with spades and

hoes turned up great part of that large area. Instead of pots of coins, as they expected, they found great heaps, the one lying on the other, as if shot out of a bag; many of which were in good preservation. Silver and gold these inquirers expected to find; but their discoveries consisted solely of many hundreds of *Roman* copper-coins, and some medallions, all of the lower empire. There was not much *virtù* stirring at that time in this neighbourhood; however, some of the gentry and clergy around bought what pleased them best; and some dozens fell to the share of the author.

The owners at first held their commodity at an high price; but, finding that they were not likely to meet with dealers at such a rate, they soon lowered their terms, and sold the fairest as they could. The coins that were rejected became current, and passed for farthings at the petty shops. Of those that we saw, the greater part were of *Marcus Aurelius*, and the Empress *Faustina*, his wife, the father and mother of *Commodus*. Some of *Faustina* were in high relief, and exhibited a very agreeable set of features, which probably resembled that lady, who was more celebrated for her beauty than for her virtues. The medallions in general were of a paler colour than the coins. To pretend to account for the means of their coming to this place would be spending time in conjecture. The spot, I think, could not be a *Roman* camp, because it is commanded by hills on two sides; nor does it shew the least traces of entrenchments; nor can I suppose that it was a *Roman* town, because I have too good an opinion of the taste and judgment of those polished conquerors to imagine that they would settle on so barren and dreary a waste *.

* [Whether in this letter allusion is made to Mr. Sewell's letter now printed in the Appendix, cannot be ascertained; but it appears probable that the discovery of a considerable number of Roman copper coins in the year 1741 may be the same as that mentioned by Gilbert White's correspondent, and that his opinion of the improbability of a Roman camp having existed at Wolmer may have been suggested by Mr. Sewell's theory in its favour. The same may be said of the reference made in the text to the notion that a Roman town existed in the same neighbourhood. The discovery by Lord Selborne of the immense number of Roman coins, described in his paper now published, throws all former events of

LETTER II.

THAT *Selborne* was a place of some distinction and note in the time of the *Saxons* we can give most undoubted proofs. But, as there are few if any accounts of villages before *Domesday*, it will be best to begin with that venerable record. "Ipse "rex tenet *Selesburne*. *Eddid* regina tenuit, et nunquam "geldavit. De isto manerio dono dedit rex *Radfredo* pres- "bytero dimidiam hidam cum ecclesia. Tempore regis "*Edwardi* et post, valuit duodecim solidos et sex denarios; "modo octo solidos et quatuor denarios." Here we see that *Selborne* was a royal manor; and that *Editha*, the queen of *Edward* the Confessor, had been lady of that manor; and was succeeded in it by the Conqueror; and that it had a church. Besides these, many circumstances concur to prove it to have been a *Saxon* village; such as the name of the place itself[1] the names of many fields, and some families,[k]

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this kind into the shade. Mr. Bennett was not aware of Mr. Sewell's letter; or his opinion respecting the cause of the existence of the coins would doubtless have been different. Lord Selborne's discovery was, of course, many years subsequent. See Bennett's edition, 1836, p. 517 *note*. —T. B.]

[1] *Selesburne*, *Seleburne*, *Selburn*, *Selbourn*, *Selborne*, and *Selborn*, as it has been variously spelt at different periods, is of *Saxon* derivation; for *Sel* signifies *great*, and *burn* torrens, a *brook* or *rivulet*: so that the name seems to be derived from the great perennial stream that breaks out at the upper end of the village.—*Sel* also signifies *bonus*, item, *fœcundus*, *fertilis*. "ꞩel-ȝæɲ-ƚun: *fœcunda graminis clausura; fertile pascuum*: a meadow in the parish of *Godelming* is still called *Sal-gars-ton*."—Lye's Saxon Dictionary, in the Supplement, by Mr. *Manning*.

[k] Thus the name of *Aldred* signifies *all-reverend*, and that of *Kemp* means a *soldier*. Thus we have a *church-litton*, or enclosure for dead bodies, and not a *church-yard*: there is also a *Culver-croft* near the *Grange-farm*, being the enclosure where the priory *pigeon-house* stood, from *culver* a pigeon. Again there are three steep pastures in this parish called the *Lithe*, from *Hlithe*, *clivus*. The wicker-work that binds and fastens down a hedge on the top is called *ether*, from *ether* an hedge. When the good

with a variety of words in husbandry and common life, still subsisting among the country people.

What probably first drew the attention of the *Saxons* to this spot was the beautiful spring or fountain called *Well-head*,[1] which induced them to build by the banks of that perennial current; for ancient settlers loved to reside by brooks and rivulets, where they could dip for their water without the trouble and expense of digging wells and of drawing.

It remains still unsettled among the antiquaries at what time tracts of land were first appropriated to the chase alone for the amusement of the sovereign. Whether our *Saxon* monarchs had any royal forests does not, I believe, appear on record; but the *Constitutiones de Foresta* of *Canute*, the Dane, are come down to us. We shall not therefore pretend to say whether *Wolmer-forest* existed as a royal domain before the conquest. If it did not, we may suppose it was laid out by some of our earliest *Norman* kings, who were exceedingly attached to the pleasures of the chase, and resided much at *Winchester*, which lies at a moderate distance from this district. The *Plantagenet* princes seem to have been pleased with *Wolmer*; for tradition says that king *John*

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women call their hogs they cry *sic, sic,** not knowing that *sic* is *Saxon*, or rather *Celtic*, for a hog. Coppice or brush wood our countrymen call *rise*, from *hris*, frondes; and talk of a load of *rise*. Within the author's memory the *Saxon* plurals, *housen* and *peason*, were in common use. But it would be endless to instance in every circumstance: he that wishes for more specimens must frequent a farmer's kitchen. I have therefore selected some words to show how familiar the *Saxon* dialect was to this district, since in more than seven hundred years it is far from being obliterated.

[1] *Well-head* signifies *spring-head*, and not a deep pit from whence we draw water. For particulars about which see Letter I. to Mr. *Pennant*.

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* Σικα, porcus, apud *Lacones*; un Porceau chez les *Lacédemoniens*: ce mot a sans doute esté pris des *Celtes*, qui discent *sic*, pour marquer un porceau. Encore aujour'huy quand les *Bretons* chassent ces animaux, ils ne disent point autrement, que *sic, sic.—Antiquité de la Nation, et de la Langue des Celtes, par Pezron*.

resided just upon the verge, at *Ward le ham*, on a regular and remarkable mount, still called *King John's Hill*, and *Lodge Hill*; and *Edward* III. had a chapel in his park, or enclosure, at *Kingsley*.[m] *Humphrey*, duke of *Gloucester*, and *Richard*, duke of *York*, say my evidences, were both, in their turns, *wardens* of *Wolmer-forest;* which seems to have served for an appointment for the younger princes of the royal family, as it may again.

I have intentionally mentioned *Edward* III. and the dukes *Humphrey* and *Richard*, before king *Edward* II. because I have reserved, for the entertainment of my readers, a pleasant anecdote respecting that prince, with which I shall close this letter.

As *Edward* II. was hunting on *Wolmer-forest*, *Morris Ken*, of the kitchen, fell from his horse several times; at which accidents the king laughed immoderately: and when the chase was over, ordered him twenty shillings;[n] an enormous sum for those days! Proper allowances ought to be made for the youth of this monarch, whose spirits also, we may suppose, were much exhilarated by the sport of the day: but, at the same time, it is reasonable to remark that, whatever might be the occasion of *Ken's* first fall, the subsequent ones seem to have been designed. The scullion appears to have been an artful fellow, and to have seen the king's foible; which furnishes an early specimen of that his easy softness and facility of temper, of which the infamous *Gaveston* took such advantages, as brought innumerable calamities on the nation, and involved the prince at last in such misfortunes and sufferings too deplorable to be mentioned without horror and amazement.

[m] The parish of *Kingsley* lies between, and divides *Wolmer-forest* from *Ayles Holt-forest*. See Letter IX. to Mr. *Pennant*.

[n] "Item, paid at the lodge at *Wolmer*, when the king was stag-hunting there, to *Morris Ken*, of the kitchen, because he rode before the king and often fell from his horse, at which the king laughed exceedingly—a gift, by command, of twenty shillings."—A MS. in possession of *Thomas Astle*, esq, containing the private expenses of *Edward* II.

LETTER III.

From the silence of *Domesday* respecting churches, it has been supposed that few villages had any at the time when that record was taken; but *Selborne*, we see, enjoyed the benefit of one: hence we may conclude, that this place was in no abject state even at that very distant period. How many fabrics have succeeded each other since the days of *Radfredus* the *presbyter*, we cannot pretend to say; our business leads us to a description of the present edifice, in which we shall be circumstantial.

Our church, which was dedicated to the *Virgin Mary*, consists of three aisles, and measures fifty-four feet in length by forty-seven in breadth, being almost as broad as it is long. The present building has no pretensions to antiquity; and is, as I suppose, of nó earlier date than the beginning of the reign of *Henry* VII. It is perfectly plain and unadorned, without painted glass, carved work, sculpture, or tracery. But when I say it has no claim to antiquity, I would mean to be understood of the fabric in general; for the pillars which support the roof, are undoubtedly old, being of that low, squat, thick order, usually called *Saxon*. These, I should imagine, upheld the roof of a former church, which, falling into decay, was rebuilt on those massy props, because their strength had preserved them from the injuries of time.[o] Upon these rest blunt *gothic* arches, such as prevailed in the reign above-mentioned, and by which, as a criterion, we would prove the date of the building.

At the bottom of the south aisle, between the west and south doors, stands the font, which is deep and capacious, and

[o] In the same manner, to compare great things with small, did *Wykeham*, when he new-built the cathedral of *Winchester*, from the tower westward, apply to his purpose the old piers or pillars of Bishop *Walkelin's* church, by blending *Saxon* and *Gothic* architecture together.—See *Lowth's* Life of Wykeham.

consists of three massy round stones, piled one on another, without the least ornament or sculpture: the cavity at the top is lined with lead, and has a pipe at bottom to convey off the water after the sacred ceremony is performed.

The east end of the south aisle is called the *South Chancel*, and, till within these thirty years, was divided off by old carved *gothic* frame-work of timber, having been a private chantry. In this opinion we are more confirmed by observing two *gothic* niches within the space, the one in the east wall and the other in the south, near which there probably stood images and altars.

In the middle aisle there is nothing remarkable: but I remember when it's beams were hung with garlands in honour of young women of the parish, reputed to have died virgins; and recollect to have seen the clerk's wife cutting, in white paper, the resemblances of gloves, and ribbons to be twisted into knots and roses, to decorate these memorials of chastity. In the church of *Faringdon*, which is the next parish, many garlands of this sort still remain.

The north aisle is narrow and low, with a sloping ceiling, reaching within eight or nine feet of the floor. It had originally a flat roof covered with lead, till, within a century past, a churchwarden, stripping off the lead, in order, as he said, to have it mended, sold it to a plumber, and ran away with the money. This aisle has no door, for an obvious reason; because the north-side of the church-yard, being surrounded by the vicarage-garden, affords no path to that side of the church. Nothing can be more irregular than the pews of this church, which are of all dimensions and heights, being patched up according to the fancy of the owners: but whoever nicely examines them will find that the middle aisle had, on each side, a regular row of benches of solid oak, all alike, with a low back-board to each. These we should not hesitate to say are coeval with the present church: and especially as it is to be observed that, at their ends, they are ornamented with carved blunt *gothic* niches, exactly correspondent to the arches of the church, and to a niche in the south wall. The south aisle also has a row of these benches;

but some are decayed through age, and the rest much disguised by modern alterations.

At the upper end of this aisle, and running out to the north, stands a transept, known by the name of the *North Chancel*, measuring twenty-one feet from south to north, and nineteen feet from east to west: this was intended, no doubt, as a private chantry; and was also, till of late, divided off by a *gothic* frame-work of timber. In it's north wall, under a very blunt *gothic* arch, lies perhaps the founder of this edifice, which, from the shape of it's arch, may be deemed no older than the latter end of the reign of *Henry* VII. The tomb was examined some years ago, but contained nothing except the scull and thigh-bones of a large tall man, and the bones of a youth or woman, lying in a very irregular manner, without any escutcheon or other token to ascertain the names or rank of the deceased. The grave was very shallow, and lined with stone at the bottom and on the sides.

From the east wall project four stone brackets, which I conclude supported images and crucifixes. In the great thick pilaster, jutting out between this transept and the chancel, there is a very sharp *gothic* niche, of older date than the present chantry or church. But the chief pieces of antiquity are two narrow stone coffin-lids, which compose part of the floor, and lie from west to east, with the very narrow ends eastward: these belong to remote times; and, if originally placed here, which I doubt, must have been part of the pavement of an older transept. At present there are no coffins under them, whence I conclude they have been removed to this place from some part of a former church. One of these lids is so eaten by time, than no sculpture can be discovered upon it; or, perhaps, it may be the wrong side uppermost: but on the other, which seems to be of stone of a closer and harder texture, is to be discerned a *discus*, with a cross on it, at the end of a staff or rod, the well-known symbol of a *Knight-Templar*.[p]

This order was distinguished by a red cross on the left

[p] See *Dugdale, Monasticon Anglicanum*, Vol. II. where there is a fine engraving of a *Knight-Templar*, by *Hollar*.

shoulder of their cloak, and by this attribute in their hand. Now, if these stones belonged to *Knights Templars*, they must have lain here many centuries; for this order came into England early in the reign of king *Stephen* in 1113; and was dissolved in the time of *Edward* II. in 1312, having subsisted only one hundred and ninety-nine years. Why I should suppose that *Knights Templars* were occasionally buried at this church, will appear in some future letter, when we come to treat more particularly concerning the property they possessed here, and the intercourse that subsisted between them and the *priors* of *Selborne*.

We must now proceed to the chancel, properly so called, which seems to be coeval with the church, and is in the same plain unadorned style, though neatly kept. This room measures thirty-one feet in length, and sixteen feet and an half in breadth, and is wainscoted all round, as high as to the bottom of the windows. The space for the communion table is raised two steps above the rest of the floor, and railed in with oaken balusters. Here I shall say somewhat of the windows of the chancel in particular, and of the whole fabric in general. They are mostly of that simple and unadorned sort called *Lancet*, some single, some double, and some in triplets. At the east end of the chancel are two of a moderate size, near each other; and in the north wall two very distant small ones, unequal in length and height: and in the south wall are two, one on each side of the chancel door, that are broad and squat, and of a different order. At the east end of the south aisle of the church there is a large lancet-window in a triplet; and two very small, narrow, single ones in the south wall, and a broad squat window beside, and a double lancet one in the west end; so that the appearance is very irregular. In the north aisle are two windows, made shorter when the roof was sloped; and in the north transept a large triple window, shortened at the time of a repair in 1721; when over it was opened a round one of considerable size, which affords an agreeable light, and renders that chantry the most cheerful part of the edifice.

The church and chancels have all coved roofs, ceiled about

the year 1683; before which they were open to the tiles and shingles, showing the naked rafters, and threatening the congregation with the fall of a spar, or a blow from a piece of loose mortar.

On the north wall of the chancel is fixed a large oval white marble monument, with the following inscription; and at the foot of the wall, over the deceased, and inscribed with his name, age, arms, and time of death, lies a large slab of black marble:

Prope hunc parietem sepelitur
GILBERTUS WHITE, SAMSONIS WHITE, de
Oxon. militis filius tertius, Collegii Magdale-
-nensis ibidem alumnus, & socius. Tandem faven-
-te collegio ad hanc ecclesiam promotus; ubi primæ-
-vâ morum simplicitate, et diffusâ erga omnes bene-
-volentiâ feliciter consenuit.
Pastor fidelis, comis, affabilis,
Maritus, et pater amantissimus,
A conjuge invicem, et liberis, atque
A parochianis impensè dilectus.
Pauperibus ita beneficus
ut decimam partem censûs
moribundus
piis usibus consecravit.
Meritis demum juxta et annis plenus
ex hac vitâ migravit Feb. 13°.
anno salutis 172⅞
Ætatis suæ 77*.
Hoc posuit Rebecca
Conjux illius mæstissima,
mox secutura.

On the same wall is newly fixed a small square table-monument of white marble, inscribed in the following manner.

Sacred to the memory
of the Rev^d. ANDREW ETTY, B. D.
23 Years Vicar of this parish:
In whose character
The conjugal, the parental, and the sacerdotal virtues
were so happily combined
as to deserve the imitation of mankind.

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* [The date of his portrait is 1725.—T. B.]

And if in any particular he followed more invariably
the steps of his blessed Master,
It was in his humility.
His parishioners,
especially the sick and necessitous,
as long as any traces of his memory shall remain,
must lament his death.
To perpetuate such an example, this stone is erected;
as while living he was a preacher of righteousness,
so, by it, he being dead yet speaketh.
He died April 8th. 1784. Aged 66 years*.

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* [It was not until long after the 'Antiquities of Selborne' was written, that any knowledge of ecclesiastical architecture became general; and the account of Selborne church in the text is a remarkable proof of the ignorance which at that time prevailed both with regard to the principles of church-building, and the details in which those principles were developed. The church at Selborne still retains a large portion of the original structure, and exhibits an interesting and consistent example of the architecture of the period of its erection, which is sufficiently marked to preclude any considerable error. The arches, the pillars with their bases and capitals, the windows which remain, and other details, point to the close of the 12th or the beginning of the 13th century, and the reign of Henry III. as the true date of the present structure, which is therefore of the Early English period, just as the Norman style was becoming extinct. I can find no traces of an earlier building remaining, although it is very clear that at the time when Domesday book was composed there was a church here.

The pillars of the nave are of that simple and massive form which belongs to the transition from the Norman to the Early English style. The base of the pillars is a simple square plinth with round mouldings, on which rests the massive body of the pillar, the diameter of which is 2 ft. 7 in., and its height from base to capital 5 ft. 7 in. The capital is square, plain and bold; and from it springs a nearly equilateral pointed arch of 10 ft. span. There is still remaining in the south wall to the west of the doorway a single well-proportioned lancet window; and there is a double one of nearly similar proportions in the west wall. The south aisle terminates eastward in what was a chapel, dedicated probably to the tutelar saint of the church, with a fine well-proportioned triplet window, to the left of which is a handsome niche, which doubtless contained a figure of the saint; and on its base is a neat strip of diaper-work. In the south wall of this chantry is a piscina belonging to the altar of the chapel. Of this piscina Gilbert White makes the curious mistake of supposing that it formerly held a statue of some saint. Although all traces of a screen separating this chancel from the aisle have

LETTER IV.

We have now taken leave of the inside of the church, and shall pass by a door at the west end of the middle aisle into the belfry. This room is part of a handsome square embattled tower of forty-five feet in height, and of much more modern date than the church; but old enough to have needed a thorough repair in 1781, when it was neatly stuccoed at a considerable expense, by a set of workmen who were employed on it for the greatest part of the summer. The old bells, three in number, loud and out of tune, were taken down in 1735, and cast into four; to which *Sir Simeon Stuart*, the grandfather of the present baronet, added a fifth at his own

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long since disappeared, yet its boundary is very clearly indicated by a stone step which raises it a few inches above the level of the aisle. The string-course, extending along the east, south, and west walls of the south aisle, is simple and very perfect. The mouldings of the south doorway are very beautiful and nearly perfect. The door itself is solid, and the hinges of a good but not elaborate pattern. The north transept, described in the text, is evidently more recent than the body of the church. Of the four brackets mentioned, three are similar in form, the centre one being placed higher than the others. These certainly supported figures. The fourth bracket has no relation to the others, is placed nearer to the chancel, and is of ruder form. In the wall between the transept and the chancel there is the appearance of a small door having formerly existed, which from its position must have formed the entrance to the rood-loft; and I think it possible that the fourth bracket may have supported the stairs which led to it. There is a good piscina belonging to this transept-chantry, of later character than that in the south wall. In the north wall of the transept are the remains of a large window of three lights, the mullions of which show it to be of a later date than the church, probably towards the latter part of the century. This fine window has been curtailed of its fair proportions by the bottom of it being blocked up, and the whole upper part being cut off by a heavy beam carried quite across the wall, above which is a hideous circular window. The chancel of the church itself retains very little of its original features, and has no remains of a piscina or any other adjuncts of an altar; but there is in the north wall a small lancet window, and another in the vestry.—T. B.]

expense: and, bestowing it in the name of his favourite daughter Mrs. *Mary Stuart*, caused it to be cast with the following motto round it:

"Clara puella dedit, dixitque mihi esto Maria:
"Illius et laudes nomen ad astra sono."

The day of the arrival of this tuneable peal was observed as an high festival by the village, and rendered more joyous, by an order from the donor, that the treble-bell should be fixed bottom upward in the ground, and filled with punch, of which all present were permitted to partake.

The porch of the church, to the south, is modern, and would not be worthy attention did it not shelter a fine sharp *gothic* door-way. This is undoubtedly much older than the present fabric; and being found in good preservation, was worked into the wall, and is the grand entrance into the church: nor are the folding-doors to be passed over in silence; since, from their thick and clumsy structure, and the rude flourished-work of their hinges, they may possibly be as ancient as the door-way itself.

The whole roof of the south aisle, and the south-side of the roof of the middle aisle, is covered with oaken shingles instead of tiles, on account of their lightness, which favours the ancient and crazy-timber-frame. And indeed, the consideration of accidents by fire excepted, this sort of roofing is much more eligible than tiles. For shingles well seasoned, and cleft from quartered timber, never warp, nor let in drifting snow; nor do they shiver with frost; nor are they liable to be blown off, like tiles; but when well nailed down, last for a long period, as experience has shown us in this place, where those that face to the north are known to have endured, untouched, by undoubted tradition for more than a century.

Considering the size of the church, and the extent of the parish, the church-yard is very scanty; and especially as all wish to be buried on the south-side, which is become such a mass of mortality that no person can be there interred without disturbing or displacing the bones of his ancestors. There is

reason to suppose that it once was larger, and extended to what is now the vicarage court and garden; because many human bones have been dug up in those parts several yards without the present limits. At the east end are a few graves; yet none till very lately on the north-side; but, as two or three families of best repute have begun to bury in that quarter, prejudice may wear out by degrees, and their example be followed by the rest of the neighbourhood.

In speaking of the church, I have all along talked of the east and west-end, as if the chancel stood exactly true to those points of the compass; but this is by no means the case, for the fabric bears so much to the north of the east that the four corners of the tower, and not the four sides, stand to the four cardinal points. The best method of accounting for this deviation seems to be, that the workmen, who probably were employed in the longest days, endeavoured to set the chancels to the rising of the sun *.

Close by the church, at the west end, stands the vicarage-house; an old, but roomy and convenient edifice. It faces very agreeably to the morning sun, and is divided from the village by a neat and cheerful court. According to the manner of old times, the hall was open to the roof; and so continued probably, till the vicars became family-men, and began to want more conveniences; when they flung a floor across, and, by partitions, divided the space into chambers. In this hall we remember a date, some time in the reign of *Elizabeth;* it was over the door that leads to the stairs.

Behind the house is a garden of an irregular shape, but well laid out; whose terrace commands so romantic and picturesque a prospect, that the first master in landscape might contemplate it with pleasure, and deem it an object well worthy of his pencil.

* [It has been conjectured by some antiquaries who have studied the curious subject of the orientation of churches, that the east end is always directed towards the sunrise on the festival-day of the saint to whom the church is dedicated.—T. B.]

LETTER V.

In the church-yard of this village is a *yew-tree*, whose aspect bespeaks it to be of a great age: it seems to have seen several centuries, and is probably coeval with the church, and therefore may be deemed an antiquity*: the body is squat, short, and thick, and measures twenty-three feet in the girth, supporting an head of suitable extent to it's bulk. This is a male tree, which in the spring sheds clouds of dust, and fills the atmosphere around with it's farina.

As far as we have been able to observe, the males of this species become much larger than the females; and it has so fallen out that most of the yew-trees in the church-yards of this neighbourhood are males: but this must have been matter of mere accident, since men, when they first planted yews, little dreamed that there were sexes in trees.

In a yard, in the midst of the street, till very lately, grew a middle-sized female tree of the same species, which commonly bore great crops of berries. By the high winds usually pre-

* [The frequent occurrence of ancient yews in churchyards may be accounted for on the following consideration. There is no doubt that they were often planted near the temples of our pagan forefathers. On the introduction of Christianity the first Christian churches were built on the site of the pagan temples, for the obvious reason that the spot which had already been hallowed in the minds of the people by religious rites would still be regarded with reverence on its becoming the seat of the new religion. The yews which had been thus located within the sacred precincts would still be preserved with similar associations. The yew in Selborne churchyard may, I believe, boast of such an origin.

The question is frequently asked, "What do you suppose is the age of this grand old tree?" An approximate solution of this question is not so difficult as may be supposed. I have repeatedly measured the trunk, and find that at 1 foot from the ground its circumference is 23 feet, and at 4 feet it is 25. Taking, therefore, 24 as the mean, and following De Candolle's method, as tested by Mr. Bowman, the result would give about 1200 years as near the probable age, and consequently the year 650–660 as the time at which it may have been planted. See Mr. Bowman's interesting paper in Mag. of Nat. Hist. 2nd series, vol. i. pp. 28–85.—T. B.]

vailing about the autumnal equinox, these berries, then ripe, were blown down into the road, where the hogs ate them. And it was very remarkable, that, though barrow-hogs and young sows found no inconvenience from this food, yet milch-sows often died after such a repast: a circumstance that can be accounted for only by supposing that the latter, being much exhausted and hungry, devoured a larger quantity.

While mention is making of the bad effects of yew-berries, it may be proper to remind the unwary, that the twigs and leaves of yew, though eaten in a very small quantity are certain death to horses and cows, and that in a few minutes. An horse tied to a yew-hedge, or to a faggot-stack of dead yew, shall be found dead before the owner can be aware that any danger is at hand: and the writer has been several times a sorrowful witness to losses of this kind among his friends, and in the island of *Ely* had once the mortification to see nine young steers or bullocks of his own all lying dead in an heap from browzing a little on an hedge of yew in an old garden into which they had broken in snowy weather. Even the clippings of a yew-hedge have destroyed a whole dairy of cows when thrown inadvertently into a yard. And yet sheep and turkies, and, as park-keepers say, deer, will crop these trees with impunity.

Some intelligent persons assert that the branches of yew, while *green*, are not noxious; and that they will kill only when *dead* and *withered*, by lacerating the stomach: but to this assertion we cannot by any means assent, because, among the number of cattle that we have known fall victims to this deadly food, not one has been found, when it was opened, but had a lump of *green* yew in it's paunch. True it is, that yew-trees stand for twenty years or more in a field, and no bad consequences ensue: but at some time or other cattle, either from wantonness when full, or from hunger when empty, (from both which circumstances we have seen them perish) will be meddling, to their certain destruction; the yew seems to be a very improper tree for a pasture-field *.

* [The berries of the yew are perfectly innocuous; and doubtless the

Antiquaries seem much at a loss to determine at what period this tree first obtained a place in church-yards. A statute passed A.D. 1307 and 35 *Edward* I. the title of which is "Ne rector arbores in cemeterio prosternat." Now if it is recollected that we seldom see any other very large or ancient tree in a church-yard but yews, this statute must have principally related to this species of tree; and consequently their being planted in church-yards is of much more ancient date than the year 1307.

As to the use of these trees, possibly the more respectable parishioners were buried under their shade before the improper custom was introduced of burying within the body of the church, where the living are to assemble. *Deborah*, *Rebekah's* nurse,[q] was buried under an oak; the most honourable place of interment probably next to the cave of *Machpelah*,[r] which seems to have been appropriated to the remains of the patriarchal family alone.

The farther use of yew-trees might be as a screen to churches, by their thick foliage, from the violence of winds; perhaps also for the purpose of archery, the best long bows being made of that material: and we do not hear that they are planted in the church-yards of other parts of *Europe*, where long bows were not so much in use. They might also be placed as a shelter to the congregation assembling before the church-doors were opened, and as an emblem of mortality by their funereal appearance. In the south of *England* every church-yard almost has it's tree, and some two; but in the north, we understand, few are to be found.

The idea of R. C. that the *yew-tree* afforded it's branches in-

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milch-sows mentioned in the text died from having had access to the leaves. The degree in which the leaves are poisonous depends not only on the quantity taken, but on their being eaten alone or mixed with other food; and it has been remarked, probably with reason, that some animals which have eaten the leaves of yew with impunity may possibly, within a short time, have eaten heartily of some other vegetable. The statement that sheep and deer eat the yew without injury requires confirmation.—T. B.]

[q] Gen. xxxv 8. [r] Gen. xxiii, 9.

stead of palms for the processions on *Palm-Sunday*, is a good one, and deserves attention. See Gent. Mag. Vol. L. p. 128.

LETTER VI.

THE living of *Selborne* was a very small vicarage; but, being in the patronage of *Magdalen-college*, in the university of *Oxford*, that society endowed it with the great tithes of *Selborne*, more than a century ago: and since the year 1758 again with the great tithes of *Oakhanger*, called *Bene's parsonage:* so that, together, it is become a respectable piece of preferment, to which one of the fellows is always presented. The vicar holds the great tithes, by lease, under the college. The great disadvantage of this living is, that it has not one foot of glebe near home.[a]

ITS PAYMENTS ARE,	£	*s.*	*d.*
King's books — — — —	8	2	1
Yearly tenths — — — —	0	16	2½
Yearly procurations for *Blackmore* and *Oakhanger Chap:* with acquit: — — —	0	1	7
Selborne procurations and acquit: — —	0	9	0

I am unable to give a complete list of the vicars of this parish till towards the end of the reign of queen *Elizabeth;* from which period the registers furnish a regular series.

In *Domesday* we find thus—"De isto manerio dono dedit "Rex *Radfredo* presbytero dimidiam hidam cum ecclesia." So that before *Domesday*, which was compiled between the years 1081 and 1086, here was an officiating minister at this place.

After this, among my documents, I find occasional mention of a vicar here and there: the first is

Roger, instituted in 1254.

[a] At *Bene's*, or *Bin's, parsonage* there is a house and stout barn, and seven acres of glebe. *Bene's* parsonage is three miles from the church.

In 1410 *John Lynne* was vicar of *Selborne.*

In 1411 *Hugo Tybbe* was vicar.

The presentations to the vicarage of *Selborne* generally ran in the name of the prior and the convent; but *Tybbe* was presented by prior *John Wynechestre* only.

June 29, 1528, *William Fisher*, vicar of *Selborne*, resigned to *Miles Peyrson.*

1594, *William White* appears to have been vicar to this time. Of this person there is nothing remarkable, but that he hath made a regular entry twice in the register of *Selborne* of the funeral of *Thomas Cowper*, bishop of *Winchester*, as if he had been buried at *Selborne;* yet this learned prelate, who died 1594, was buried at *Winchester*, in the cathedral, near the episcopal throne.[t]

1595, *Richard Boughton*, vicar.

1596, *William Inkforbye*, vicar.

May 1606, *Thomas Phippes*, vicar.

June 1631, *Ralph Austine*, vicar.

July 1632, *John Longworth.* This unfortunate gentleman, living in the time of *Cromwell's* usurpation, was deprived of his preferment for many years, probably because he would not take the league and covenant: for I observe that his father-in-law, the Reverend *Jethro Beal*, rector of *Faringdon*, which is the next parish, enjoyed his benefice during the whole of that unhappy period. *Longworth*, after he was dispossessed, retired to a little tenement about one hundred and fifty yards from the church, where he earned a small pittance by the practice of physic. During those dismal times it was not uncommon for the deposed clergy to take up a medical character; as was the case in particular, I know, with the Reverend Mr. *Yalden*, rector of *Compton*, near *Guildford*, in the county of *Surrey.* Vicar *Longworth* used frequently to mention to his sons, who told it to my relations, that, the *Sunday* after his deprivation, his puritanical successor stepped into the pulpit with no small petulance and exultation; and began his sermon from *Psalm* xx. 8. "*They are brought* "*down and fallen; but we are risen and stand upright.*" This

[t] See *Godwin* de præsulibus, folio. *Cant.* 1743, page 239.

person lived to be restored in 1660, and continued vicar for eighteen years; but was so impoverished by his misfortunes, that he left the vicarage-house and premises in a very abject and dilapidated state *.

July 1678. *Richard Byfield*, who left eighty pounds by will, the interest to be applied to apprentice out poor children: but this money, lent on private security, was in danger of being lost, and the bequest remained in an unsettled state for near twenty years, till 1700; so that little or no advantage was derived from it. About the year 1759 it was again in the utmost danger by the failure of a borrower; but, by prudent management, has since been raised to one hundred pounds stock in the three per cents reduced. The trustees are the vicar and the renters or owners of *Temple*, *Priory*, *Grange*, *Blackmore*, and *Oakhanger-house*, for the time being. This gentleman seemed inclined to have put the vicarial

* [John Ferrol, M.A., Fellow of Magdalen College, Oxford. That the interloper had his turn of persecution on the change of Government appears from the following account taken from Calamy's 'Nonconformists' Memorial:'—"He was an humble, peaceable, laborious divine; prudent and inoffensive in his conduct. Of an healthful constitution, and of a meek and even temper, not much resenting the injuries of his adversaries. He was of an active disposition, and, being a noted botanist and herbalist, made his garden his diversion when his labouring mind called for a relaxation from his studies. Upon Mr. L(ongworth)'s sequestration he was settled in his place; but after the Restoration he was advised to resign his living to the former incumbent, which he accordingly did, and then retired to Guildford, in Surrey, where he kept boarders who went to the free school. When the corporation oath was imposed, not being satisfied to take it, he removed to Farnham. On January 14, 1669, he was taken up near Godalming, and sent to the Marshalsea in Southwark, for having been found within five miles of the corporation of Guilford and Godalming, and also for preaching at Godalming. He continued six months in prison, and sometimes said that this was one of the most comfortable parts of his life, through the kindness of friends whom God raised up to administer relief to him in his troubles." It appears that Bishop Morley was very kind to him, and certainly Ferrol was no bigot, as "his custom was to go to the public church as his people also did." After some changes of residence he finally "retired to Lymington, in Hampshire, where he was not idle, but preached frequently . . . till by a gentle decay, the candle of life burning down to the socket, he expired, not with a stink, but a sweet savour . . . in the 80th year of his age."—T. B.]

premises in a comfortable state; and began, by building a solid stone wall round the front-court, and another in the lower yard, between that and the neighbouring garden; but was interrupted by death from fulfilling his laudable intentions.

April 1680, *Barnabas Long* became vicar.

June 1681. This living was now in such low estimation in *Magdalen-college*, that it descended to a junior fellow, *Gilbert White*, M.A.* who was instituted to it in the thirty-first year of his age. At his first coming he ceiled the chancel, and also floored and wainscoted the parlour and hall, which before were paved with stone, and had naked walls; he enlarged the kitchen and brewhouse, and dug a cellar and well: he also built a large new barn in the lower yard, removed the hovels in the front court, which he laid out in walks and borders; and entirely planned the back garden, before a rude field with a stone-pit in the midst of it. By his will he gave and bequeathed "the sum of forty pounds to be laid out in the "most necessary repairs of the church; that is, in strengthening and securing such parts as seem decaying and dangerous." With this sum two large buttresses were erected to support the east end of the south wall of the church; and the gable-end wall of the west end of the south aisle was new built from the ground.

By his will also he gave "One hundred pounds to be laid "out on lands; the yearly rents whereof shall be employed in "teaching the poor children of *Selbourn* parish to read and "write, and say their prayers and catechism, and to sew and "knit:—and be under the direction of his executrix as long "as she lives; and, after her, under the direction of such of "his children and their issue, as shall live in or within five "miles of the said parish: and on failure of any such, then "under the direction of the vicar of *Selbourn* for the time "being; but still to the uses above-named." With this sum was purchased, of *Thomas Turville*, of *Hawkeley*, in the county of *Southampton*, yeoman, and *Hannah* his wife, *two closes* of freehold land, commonly called *Collier's*, containing, by estimation, *eleven* acres, lying in *Hawkeley* aforesaid. These

* The author's grandfather and godfather.

closes are let at this time, 1785, on lease, at the rate of three pounds by the year.

This vicar also gave by will *two hundred pounds* towards the repairs of the highways[u] in the parish of *Selborne*. That sum was carefully and judiciously laid out in the summer of the year 1730, by his son *John White**, who made a solid and firm causey from *Rood-green*, all down *Honey-lane*, to a farm called *Oakwoods*, where the sandy soil begins. This miry and gulfy lane was chosen as worthy of repair, because it leads to the forest, and thence through the *Holt* to the town of *Farnham* in *Surrey*, the only market in those days for men who had wheat to sell in this neighbourhood. This causey was so deeply bedded with stone, so properly raised above the level of the soil, and so well drained, that it has, in some degree, withstood fifty-four years of neglect and abuse; and might, with moderate attention, be rendered a solid and comfortable road. The space from *Rood-green* to *Oak-woods* measures about three quarters of a mile.

In 1727, *William Henry Cane*, B.D. became vicar; and, among several alterations and repairs, new-built the back front of the vicarage-house.

On *February* 1, 1740, *Duncombe Bristowe*, D.D. was instituted to this living. What benefactions this vicar bestowed on the parish will be best explained by the following passages from his will:—"*Item*, I hereby give and bequeath to the "minister and churchwardens of the parish of *Selbourn*, in the "county of *Southampton*, a mahogany table, which I have "ordered to be made for the celebration of the Holy Com-"munion; and also the sum of thirty pounds, in trust, to be "applied in manner following; that is, ten pounds towards "the charge of erecting a gallery at the west end of the "church; and ten pounds to be laid out for cloathing, and "such like necessaries, among the poor (and especially among "the ancient and infirm) of the said parish: and the re-

[u] "Such legacies were very common in former times, before any effectual laws were made for the repairs of highways." Sir John Cullum's Hawsted, p. 15.

* [Father of Gilbert White.—T. B.]

"maining ten pounds to be distributed in bread, at twenty "shillings a week, at the discretion of *John White*, esq. or "any of his family, who shall be resident in the said parish."

On *November* 12, 1758, *Andrew Etty*, B.D. became vicar. Among many useful repairs he new-roofed the body of the vicarage-house; and wainscoted, up to the bottom of the windows, the whole of the chancel; to the neatness and decency of which he always paid the most exact attention.

On *September*, 25, 1784, *Christopher Taylor*, B.D. was inducted into the vicarage of *Selborne*.

LETTER VII.

I SHALL now proceed to the *Priory*, which is undoubtedly the most interesting part of our history.

The *Priory* of *Selborne* was founded by *Peter de la Roche*, or *de Rupibus*,[x] one of those accomplished foreigners that resorted to the court of king *John*, where they were usually caressed, and met with a more favourable reception than ought, in prudence, to have been shown by any monarch to strangers. This adventurer was a *Poictevin* by birth, had been bred to arms in his youth, and distinguished by knighthood. Historians all agree not to speak very favourably of this remarkable man; they allow that he was possessed of courage and fine abilities, but then they charge him with arbitrary principles, and violent conduct. By his insinuating manners he soon rose high in the favour of *John;* and in 1205, early in the reign of that prince, was appointed bishop of *Winchester*. In 1214 he became lord chief justiciary of *England*, the first magistrate in the state, and a kind of viceroy, on whom depended all the civil affairs in the kingdom. After the death of *John*, and during the minority of his son *Henry*, this prelate took upon him the entire management of the realm, and was soon appointed protector of the king and kingdom.

[x] See *Godwin* de Præsulibus Anglia. Folio. London. 1743, p. 217.

The barons saw with indignation a stranger possessed of all the power and influence, to part of which they thought they had a claim; they therefore entered into an association against him, and determined to wrest some of that authority from him which he had so unreasonably usurped. The bishop discerned the storm at a distance; and, prudently resolving to give way to that torrent of envy which he knew not how to withstand, withdrew quietly to the Holy Land, where he resided some time.

At this juncture a very small part of *Palestime* remained in the hands of the Christians: they had been by *Saladine* dispossessed of *Jerusalem*, and all the internal parts, near forty years before; and with difficulty maintained some maritime towns and garrisons: yet the busy and enterprising spirit of *de Rupibus* could not be at rest; he distinguished himself by the splendour and magnificence of his expenses, and amused his mind by strengthening fortresses and castles, and by removing and endowing of churches. Before his expedition to the east he had signalized himself as a founder of convents, and as a benefactor to hospitals and monasteries.

In the year 1231 he returned again to *England*; and the very next year, in 1232, began to build and endow the PRIORY of SELBORNE. As this great work followed so close upon his return, it is not improbable that it was the result of a vow made during his voyage; and especially as it was dedicated to the *Virgin Mary*. Why the bishop made choice of *Selborne* for the scene of his munificence can never be determined now: it can only be said that the parish was in his diocese, and lay almost midway between *Winchester* and *Farnham*, or *South Waltham* and *Farnham;* from either of which places he could without much trouble overlook his workmen, and observe what progress they made; and that the situation was retired, with a stream running by it, and sequestered from the world, amidst woods and meadows, and so far proper for the site of a religious house.[y]

[y] The institution at *Selborne* was a priory of *Black-Canons* of the order of *St. Augustine*, called also *Canons-Regular*. *Regular-Canons* were such as lived in a conventual manner, under one roof, had a common refectory

The first person with whom the founder treated about the purchase of land was *Jacobus de Achangre*, or *Ochangre*, a gentleman of property who resided at that hamlet; and, as appears, at the house now called *Oakhanger-house*. With him he agreed for a croft, or little close of land, known by the name of *La liega*, or *La lyge*, which was to be the immediate site of the *Priory*.

De Achangre also accommodated the bishop at the same instant with three more adjoining crofts, which for a time was all the footing that this institution obtained in the parish. The seller in the conveyance says "Warantizabimus, defen-"demus, et æquietabimus *contra amnes gentes;*" *viz.* "We "will warrant the thing sold against all claims from any "quarter." In modern conveyancing this would be termed a covenant for *further assurance*. Afterwards is added—"Pro hac autem donacione, &c. dedit mihi pred. Episcopus "sexdecem marcas argenti in *Gersumam:*" i. e. "the bishop "gave me sixteen silver marks as a consideration for the "thing purchased."

As the grant from *Jac. de Achangre* was without date,[z] and the next is circumstanced in the same manner, we cannot say exactly what interval there was between the two purchases; but we find that *Jacobus de Nortun*, a neighbouring gentleman, also soon sold to the bishop of *Winchester* some adjoining grounds, through which our stream passes, that the priory might be accommodated with a *mill*, which was a common

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and dormitory, and were bound by vows to observe the rules and statutes of their order: in fine, they were a kind of religious, whose discipline was less rigid than the *monks*. The chief rule of these *canons* was that of *St. Augustine*, who was constituted bishop of *Hippo*, A. D. 395: but they were not brought into *England* till after the conquest; and seem not to have obtained the appellation of *Augustine canons* till some years after. Their habit was a long black *cassock*, with a white *rocket* over it; and over that a black *cloak and hood*. The monks were always shaved; but these canons wore their hair and beards, and caps on their heads. There were of these *canons*, and women of the same order called *Canonesses*, about 175 houses.

[z] The custom of affixing dates to deeds was not become general in the reign of *Henry* III.

necessary appendage to every manor : he also allowed access to these lands by a road for carts and waggons.—"*Jacobus de Nortun* concedit *Petro Winton* episcopo totum cursum aque "que descèndit de *Molendino de Durton* usq; ad boscum "*Will. Mauduit*, et croftam terre vocat : *Edriche croft*, cum "extensione ejusdem et abuttamentis ; ad fundandam domum "religiosam de ordine *Sti. Augustini.* Concedit etiam viam "ad carros, et caretas," &c. This vale, down which runs the brook is now called the *Long Lithe, or Lythe.* Bating the following particular expression, this grant runs much in the style of the former ; "Dedit mihi episcopus predictus triginta "quinque marcas argenti *ad me acquietandum versus Judæos.*" —That is, "the bishop advanced me thirty-five marks of silver "to pay my debts to the jews," who were then the only lenders of money.

Finding himself still straightened for room, the founder applied to his royal master, *Henry*, who was graciously pleased to bestow certain lands in the manor of *Selborne* on the new priory of his favourite minister. These grounds had been the property of *Stephen de Lucy ;* and abutting upon the narrow limits of the convent, became a very commodious and agreeable acquisition. This grant, I find, was made on *March* the 9th, in the eighteenth year of *Henry, viz.* 1234, being two years after the foundation of the monastery. The royal donor bestowed his favour with a good grace, by adding to it almost every immunity and privilege that could have been specified in the law language of the times.—"Quare volumus prior, &c. "habeant totam terram, &c. cum omnibus libertatibus in "bosco et plano, in viis et semitis, pratis et pascuis ; aquis et "piscariis ; infra burgum, et extra burgum cum soka et saca, "Thol et Them, Infangenethef et Utfangenethef, et hamsocne "et blodwite, et pecunia que dari solet pro murdro et forstal, "et flemenestrick, et cum quietancia de omni scotto et geldo, "et de omnibus auxiliis regum, vice comitum, et omn : minis- "tralium suorum ; et hidagio et exercitibus, et scutagiis, et "tallagiis, et shiris et hundredis, et placitis et querelis, et "warda et wardpeny, et opibus castellorum et pontium, et "clausuris parcorum, et omni carcio et sumagio, et domor :

"regal: edificatione, et omnimoda reparatione, et cum omni-"bus aliis libertatibus." This grant was made out by *Richard* bishop of *Chichester*, then chancellor, at the town of *Northampton*, before the lord chief justiciary, who was the founder himself.

The *charter* of foundation of the *Priory*, dated 1233, comes next in order to be considered; but being of some length, I shall not interrupt my narrative by placing it here; and therefore refer the reader to the Appendix, N° I. This my copy, taken from the original, I have compared with *Dugdale's* copy, and find that they perfectly agree; except that in the latter the preamble and the names of the witnesses are omitted. Yet I think it proper to quote a passage from this charter—"Et "ipsa domus religiosa *a cujuslibet alterius domûs religiosæ* "*subjectione libera* permaneat, et in omnibus *absoluta*"—to shew how much *Dugdale* was mistaken when he inserted *Selborne* among the *alien priories;* forgetting that this disposition of the convent contradicted the grant he had published. In the *Monasticon Anglicanum* in English, p. 119, is part of his catalogue of *alien priories*, suppressed 2 *Henry* V. *viz.* 1414, where may be seen as follows,

S.
Sele, Sussex.
SELEBURN.
Shirburn.

This appeared to me from the first to have been an oversight, before I had seen my authentic evidences. For *priories alien*, a few *conventual* ones excepted, were little better than *granges* to foreign abbies; and their priors little more than bailiffs, removable at will: whereas the *priory* of *Selborne* possessed the valuable estates and manors of *Selborne*, *Achangre*, *Norton*, *Brompden*, *Bassinges*, *Basingstoke*, and *Natele;* and the prior challenged the right of *Pillory*, *Thurcet*, and *Furcas*, and every manerial privilege.

I find next a grant from *Jo. de Venur*, or *Venuz*, to the prior of *Selborne*—"de tota mora [a moor or bog] ubi *Beme* "oritur usque ad campum vivarii, et de prato voc. *Syden-*

"*meade* cum abutt: et de cursu aque molendini." And also a grant in reversion "unius virgate terre," [a yard land] in *Achangre* at the death of *Richard Actedene* his sister's husband, who had no child. He was to present a pair of gloves of one penny value to the prior and canons, to be given annually by the said *Richard*; and to quit all claim to the said lands in reversion, provided the prior and canons would engage annually to pay to the king, through the hands of his bailiffs of *Aulton*, ten shillings at four quarterly payments, "pro omnibus serviciis, consuetudinibus, exactionibus, et de-"mandis."

This *Jo. de Venur* was a man of property at *Oakhanger*, and lived probably at the spot now called *Chapel-farm*. The grant bears date the 17th year of the reign of *Henry* III. [*viz.* 1233.]

It would be tedious to enumerate every little grant for lands or tenements that might be produced from my vouchers. I shall therefore pass over all such for the present, and conclude this letter with a remark that must strike every thinking person with some degree of wonder. No sooner had a monastic institution got a footing, but the neighbourhood began to be touched with a secret and religious awe. Every person round was desirous to promote so good a work; and either by sale, by grant, or by gift in reversion, was ambitious of appearing a benefactor. They who had not lands to spare gave roads to accommodate the infant foundation. The religious were not backward in keeping up this pious propensity, which they observed so readily influenced the breasts of men. Thus did the more opulent monasteries add house to house, and field to field; and by degrees manor to manor: till at last "there was no place left;" but every district around became appropriated to the purposes of their founders, and every precinct was drawn into the vortex*.

* [The following letter is in Gilbert White's handwriting, and is a copy of the one sent to Dr. Nash.—T. B.

"To the Rev. Dr. Nash, the Historian of Worcestershire.

"Dear Sir,

"As soon as ever I step out of Nat: history into the walk of Antiquities I find my feet as it were on strange ground: and am glad to catch at

LETTER VIII.

Our forefathers in this village were no doubt as busy and bustling, and as important, as ourselves: yet have their names

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any helping hand that will extend itself, and conduct me out of my difficulties. But as my plan necessarily obliges me to enter on the antiquities of my native place, I must presume on our old friendship, and call upon you to solve me some doubts in a study wherein I know you have prosecuted y^r^ enquiries with no small success.

"Now the first object that calls my attention in this little district is the priory of Seleburne, which I find by Bp. Tanner consisted of a society of 'Black Canons, and was founded by P. de Rupibus, Bp. of Winton, A. D. 1233, but was suppressed and granted to Will. Wainfleet, who made it part of the endowment of St. Mary Magd. Coll. in Oxford.' All this I understand very well; but then the matter that troubles me is that I have seen in some author, and have quite forgot who he was, that this was a *priory alien*: and there was moreover a list of the priories alien that were dissolved in the 2nd year of Hen. 5th; and among the rest was the priory of Seleburne.

"Now this fact, if it is a fact, is very strange, since the founder mentions no such subordination in his institution; but in his grant, which I have before me, has carefully precluded any such alienation; as he never would have done had he intended that some foreign abbey should have claimed a jurisdiction over his convent. In the grant he says, '- - - - firmiter inhibentes, ne quis eorum *possessiones invadere* vi vel fraude, vel ingenio malo *occupare* audeat vel etiam *retinere* - - - -;' and further on he adds, what is still more to my purpose, '- - - et ipsa Domus religiosa a *cujuslibet alterius Domus religiosæ subjectione libera* permaneat, *et in omnibus absoluta* - - -.' Now after this, strong reasons should be given to induce a person to suppose that this priory was ever alienated 'til it was given to Magd. Coll.

"In the references in Bp. Tanner's 'Notit. Monasticæ,' p. 166, under the section Seleburne is 'Cart. 54 Hen^r^ 3. M. 3 "De mercatu et feria apud Seleburn."' Now I am in doubt where I should apply for this charter; whether to the archives of Magd. Coll., or to Dodsworth's collections of papers in the Bod. Library. As to the law term of '*Secta molendini*,' I think I understand the purport of it; but then I am at a loss about the two last words 'de strete;' *vide* references in Tanner under Seleburne.

"We have in this parish a farm and manor which goes by the name of

and transactions been forgotten from century to century, and have sunk into oblivion ; nor has this happened only to the vulgar, but even to men remarkable and famous in their generation. I was led into this train of thinking by finding in my vouchers that Sir *Adam Gurdon* was an inhabitant of *Selborne*, and a man of the first rank and property in the parish. By Sir *Adam Gurdon* I would be understood to mean that leading and accomplished malecontent in the *Mountfort* faction, who distinguished himself by his daring conduct in the reign of *Henry* III. The first that we hear of this person in my papers is, that with two others he was bailiff of *Alton* before the sixteenth of *Henry* III. *viz.* about 1231, and then not knighted. Who *Gurdon* was, and whence he came, does not appear : yet there is reason to suspect that he was originally a mere soldier of fortune, who had raised himself by marrying women of property. The name of *Gurdon* does not seem to be known in the south ; but there is a name so like it in an adjoining kingdom, and which belongs to two or three noble families, that it is probable this remarkable person was a *North Briton ;* and the more so, since the Christian name of *Adam* is a distinguished one to this day among the family of the *Gordons*.—But, be this as it may, Sir *Adam Gurdon* has been noticed by all the writers of *English* history for his bold disposition and disaffected spirit, in that he not only figured during the successful rebellion of *Leicester*, but kept up the war after the defeat and death of that baron, entrenching himself in the woods of *Hampshire*, towards the town of *Farnham*.

Temple and *The Temple*. This manor, which is very considerable, and TITHE-FREE, has on it a manor-house which bespeaks great antiquity, from the thickness of the stone walls and the smallness of the windows. In the middle was an hall, which formerly reached up to the roof, as may plainly be seen in the chambers; and at the N.W. end is a chapel. Now as Tanner mentions no such preceptory of that order here, it was probably no more than an estate belonging to the Templars.

"I hear with pleasure that you are writing the Nat. Hist. and Antiquities of Worcestershire. Your work will one day, I trust, make as great a figure as Plot's Hist. of Staff., which lies at my elbow. In some respects you will, I am sure, excel the Dr.; for he is often, I think, trifling and credulous, and sometimes, if I mistake not, superstitious."]

After the battle of *Evesham*, in which *Mountfort* fell, in the year 1265, *Gurdon* might not think it safe to return to his house for fear of a surprise; but cautiously fortified himself amidst the forests and woodlands with which he was so well acquainted. Prince *Edward*, desirous of putting an end to the troubles which had so long harassed the kingdom, pursued the arch-rebel into his fastnesses; attacked his camp; leaped over the entrenchments; and, singling out *Gurdon*, ran him down, wounded him, and took him prisoner.[a]

There is not perhaps in all history a more remarkable instance of command of temper, and magnanimity, than this before us: that a young prince, in the moment of victory, when he had the fell adversary of the crown and royal family at his mercy, should be able to withhold his hand from that vengeance which the vanquished so well deserved. A cowardly disposition would have been blinded by resentment: but this gallant heir apparent saw at once a method of converting a most desperate foe into a lasting friend. He raised the fallen veteran from the ground, he pardoned him, he admitted him into his confidence, and introduced him to the queen, then lying at *Guildford*, that very evening.[a] This unmerited and unexpected lenity melted the heart of the rugged *Gurdon* at once; he became in an instant a loyal and useful subject, trusted and employed in matters of moment by *Edward* when king, and confided in till the day of his death.*

LETTER IX.

It has been hinted in a former letter that Sir *Adam Gurdon* had availed himself by marrying women of property. By my evidences it appears that he had three wives, and probably in the following order: *Constantia*, *Ameria*, and *Agnes*. The first of these ladies, who was the companion of his middle life, seems to have been a person of considerable fortune, which

[a] M. Paris, p. 675. & Triveti Annales.

* [See a very pleasing version of this incident in Miss M. Smedley's 'Lays and Ballads,' p. 66.—T. B.]

she inherited from *Thomas Makerel*, a gentleman of *Selborne*, who was either her father or uncle. The second, *Ameria*, calls herself the quondam wife of Sir *Adam*, "quæ fui uxor," &c. and talks of her sons under age. Now *Gurdon* had no son: and beside *Agnes* in another document says, "Ego *Agnes* "quondam uxor Domini *Adæ Gurdon* in pura et ligea viduitate mea:" but *Gurdon* could not leave two widows; and therefore it seems probable that he had been divorced from *Ameria*, who afterwards married, and had sons. By *Agnes* Sir *Adam* had a daughter, *Johanna*, who was his heiress, to whom *Agnes* in her life-time surrendered part of her jointure: —he had also a bastard son.

Sir *Adam* seems to have inhabited the house now called *Temple*, lying about two miles east of the church, which had been the property of *Thomas Makerel*.

In the year 1262 he petitioned the prior of *Selborne* in his own name, and that of his wife *Constantia* only, for leave to build him an *oratory* in his manor-house, "in curia sua." Licenses of this sort were frequently obtained by men of fortune and rank from the bishop of the diocese, the archbishop, and sometimes, as I have seen instances, from the pope; not only for convenience-sake, and on account of distance, and the badness of the roads, but as a matter of state and distinction. Why the owner should apply to the *prior*, in preference to the *bishop* of the *diocese*, and how the former became competent to such a grant, I cannot say; but that the priors of *Selborne* did take that privilege is plain, because some years afterward, in 1280, Prior *Richard* granted to *Henry Waterford* and his wife *Nicholaa* a license to build an *oratory* in their court-house, "curia sua *de Waterford*," in which they might celebrate divine service, saving the rights of the mother church of *Basynges*. Yet all the while the prior of *Selborne* grants with such reserve and caution, as if in doubt of his power, and leaves *Gurdon* and his lady answerable in future to the bishop, or his ordinary, or to the vicar for the time being, in case they should infringe the rights of the mother church of *Selborne*.

The manor-house called *Temple* is at present a single build-

ing, running in length from south to north, and has been occupied as a common farm house from time immemorial. The south end is modern, and consists of a brew-house, and then a kitchen. The middle part is an hall twenty-seven feet in length, and nineteen feet in breadth; and has been formerly open to the top, but there is now a floor above it, and also a chimney in the western wall. The roofing consists of strong massive rafter-work ornamented with carved roses. I have often looked for the *lamb* and *flag*, the arms of the *knights templars*, without success; but in one corner found a fox with a goose on his back, so coarsely executed, that it required some attention to make out the device.

Beyond the hall to the north is a small parlour with a vast heavy stone chimney-piece; and, at the end of all, the *chapel* or *oratory*, whose massive thick walls and narrow windows at once bespeak great antiquity. This room is only sixteen feet by sixteen feet eight inches; and full seventeen feet nine inches in height. The ceiling is formed of vast joists, placed only five or six inches apart. Modern delicacy would not much approve of such a place of worship: for it has at present much more the appearance of a dungeon than of a room fit for the reception of people of condition. For the outside I refer the reader to the plate, in which Mr. *Grimm* has represensed it with his usual accuracy. The field on which this oratory abuts is still called Chapel-field. The situation of this house is very particular, for it stands upon the immediate verge of a steep abrupt hill.*

Not many years since this place was used for an hop-kiln, and was divided into two stories by a loft, part of which remains at present, and makes it convenient for peat and turf, with which it is stowed.

* [This reference is to the plate in the quarto editions. I regret to say that the house as it stood in Gilbert White's time no longer exists. It has long been pulled down, giving place to as uninteresting and ugly a building as can be imagined. The old wall, however, still remains, and probably without any important change.—T. B.]

LETTER X.

THE Priory at times was much obliged to *Gurdon* and his family. As *Sir Adam* began to advance in years he found his mind influenced by the prevailing opinion of the reasonableness and efficacy of prayers for the dead; and, therefore, in conjunction with his wife *Constantia*, in the year 1271, granted to the prior and convent of *Selborne* all his right and claim to a certain place, *placea*, called *La Pleystow*, in the village aforesaid, "in *liberam, puram*, et *perpetuam elemosinam*." This *Pleystow*,[b] *locus ludorum*, or play-place, is a level area near the church of about forty-four yards by thirty-six, and is known now by the name of the *Plestor*.[c]

It continues still, as it was in old times, to be the scene of recreation for the youths and children of the neighbourhood; and impresses an idea on the mind that this village, even in *Saxon* times, could not be the most abject of places, when the inhabitants thought proper to assign so spacious a spot for the sports and amusements of it's young people.[d]

As soon as the prior became possessed of this piece of ground, he procured a charter for a *market*[e] from king *Henry*

[b] In *Saxon* Plezertop, or Plezrtop; viz. *Plegestow*, or *Plegstow*.

[c] At this juncture probably the vast oak, mentioned p. 5, was planted by the prior, as an ornament to his new acquired market place. According to this supposition the oak was aged 432 years when blown down.

[d] For more circumstances respecting the *Plestor*, see Letter II. to Mr. *Pennant*.

[e] Bishop *Tanner*, in his *Notitia Monastica*, has made a mistake respecting the *market* and *fair* at *Selborne:* for in his references to *Dodsworth*, cart. 54 *Hen.* III. m. 3. he says, "*De mercatu, et feria de Seleburn.*" But this reference is wrong; for, instead of *Seleburn*, it proves that the place there meant was *Lekeborne*, or *Legeborne*, in the county of *Lincoln*. This error was copied from the index of the Cat. MSS. Angl. It does not appear that there ever was a *chartered* fair at *Selborne*. For several particulars respecting the present fair at *Selborne* see Letter XXVI. of these Antiquities.

Engraved by H. Adlard from a Photograph by T. Bell

The Rectory

III. and began to erect houses and stalls, "*seldas*," around it. From this period *Selborne* became a market town: but how long it enjoyed that privilege does not appear. At the same time *Gurdon* reserved to himself, and his heirs, a way through the said *Plestor* to a tenement and some crofts at the upper end, abutting on the south corner of the church-yard. This was, in old days, the manerial house of the street manor, though now a poor cottage; and is known at present by the modern name of *Elliot's*. *Sir Adam* also did, for the health of his own soul, and that of his wife *Constantia*, their predecessors and successors, grant to the prior and canons quiet possession of all the tenements and gardens, "*curtillagia*," which they had built and laid out on the lands in *Selborne*, on which he and his vassals, "*homines*," had undoubted right of common: and moreover did grant to the convent the full privilege of that right of common; and empowered the religious to build tenements and make gardens along the king's highway in the village of *Selborne*.

From circumstances put together it appears that the above were the first grants obtained by the Priory in the village of *Selborne*, after it had subsisted about thirty-nine years: moreover they explain the nature of the mixed manor still remaining in and about the village, where one field or tenement shall belong to *Magdalen-college* in the university of *Oxford*, and the next to *Norton Powlet*, esq. of *Rotherfield* house; and so down the whole street. The case was, that the whole was once the property of *Gurdon*, till he made his grants to the convent; since which some belongs to the successors of *Gurdon* in the manor, and some to the college; and this is the occasion of the strange jumble of property. It is remarkable that the tenement and crofts which Sir *Adam* reserved at the time of granting the Plestor should still remain a part of the *Gurdon-manor*, though so desirable an addition to the vicarage that is not as yet possessed of one inch of glebe at home: but of late, *viz*, in *January* 1785, *Magdalen-college* purchased that little estate, which is life-holding, in reversion, for the generous purpose of bestowing it, and it's lands, being twelve acres (three of which abut on the church-yard and vicarage-garden)

as an improvement hereafter to the living, and an eligible advantage to future incumbents.

The year after *Gurdon* had bestowed the *Plestor* on the Priory, *viz.* in 1272, *Henry* III. king of *England* died, and was succeeded by his son *Edward*. This magnanimous prince continued his regard for Sir *Adam*, whom he esteemed as a brave man, and made him *warden*, "*custos*," of the forest of Wolmer.[f] Though little emolument might hang to this appointment, yet there are reasons why it might be highly

[f] Since the letters respecting *Wolmer-forest* and *Ayles-holt*, from p. 15 to 26, were printed, the author has been favoured with the following extracts:—

In the "Act of Resumption, 1 Hen. VII." it was provided, that it be not prejudicial to "*Harry* at *Lode*, ranger of our forest of *Wolmere*, to "him by oure letters patents before tyme gevyn."

Rolls of Parl. Vol. VI. p. 370.

In the 11 Hen. VII. 1495—"*Warlham* [Wardleham] and the office of forest [forester] of *Wolmere*" were held by *Edmund* duke of *Suffolk*.—Rolls, ib. 474.

Act of general pardon, 14 *Hen.* VIII. 1523, not to extend to "*Rich.* Bp. "of *Wynton* [bishop *Fox*] for any seizure or forfeiture of liberties, &c. "within the forest of *Wolmer*, *Alysholt*, and *Newe Forest*; nor to any "person for waste, &c. within the manor of *Wardlam*, or parish of *Ward-* "*lam* [*Wardleham*;] nor to abusing, &c. of any office or fee, within the "said forests of *Wolmer* or *Alysholt*, or the said park of *Wardlam*.— "County *Suth't*.

Rolls prefixt to 1st Vol. of Journals of the Lords, p. xciii. b.

To these may be added some other particulars, taken from a book lately published, entitled "An Account of all the Manors, Messuages, Lands, "&c. in the different Counties of *England* and *Wales*, held by Lease from "the Crown; as contained in the Report of the Commissioners appointed "to inquire into the State and Condition of the Royal Forests," &c.— London, 1787.

"Southampton."

£. s. d.

P. 64, "A fee-farm rent of 31 2 11 out of the manors of East and "West *Wardleham*; and also the office of *lieutenant* or *keeper* of the forest "or chase of *Alicesholt* and *Wolmer*, with all offices, fees, commodities, "and privileges thereto belonging.

"Names of lessees, *William* earl of *Dartmouth* and others (in trust.)

"Date of the last lease, March 23, 1780; granted for such term as "would fill up the subsisting term to 31 years.

"Expiration March 23, 1811."

acceptable; and, in a few reigns after, it was given to princes of the blood.[g] In old days gentry resided more at home on their estates, and, having fewer resources of elegant in-door amusement, spent most of their leisure hours in the field and the pleasures of the chase. A large domain, therefore, at little more than a mile distance, and well stocked with game, must have been a very eligible acquisition, affording him influence as well as entertainment; and especially as the manerial house of *Temple*, by its exalted situation, could command a view of near two-thirds of the forest.

That *Gurdon*, who had lived some years the life of an outlaw, and at the head of an army of insurgents, was, for a considerable time, in high rebellion against his sovereign, should have been guilty of some outrages, and should have committed some depredations, is by no means matter of wonder. Accordingly we find a *distringas* against him, ordering him to restore to the bishop of *Winchester* some of the temporalities of that see, which he had taken by violence and detained; viz. some lands in *Hocheleye*, and a mill.[h] By a *breve*, or writ, from the king he is also enjoined to readmit the bishop of *Winchester*, and his tenants of the parish and town of *Farnham*, to pasture their horses, and other *larger* cattle, "*averia*," in the forest of *Wolmer*, as had been the usage from time immemorial. This writ is dated in the tenth year of the reign of *Edward*, viz. 1282.

All the king's writs directed to *Gurdon* are addressed in

"Appendix, N° III."

"Southampton."

"Hundreds, *Selborne* and *Finchdeane*."

"Honours and manors," &c.

"*Aliceholt* forest, three parks there.

"*Bensted* and *Kingsley*; a petition of the parishioners concerning the "three parks in *Aliceholt* forest."

William, first earl of *Dartmouth*, and paternal grandfather to the present lord *Stawel*, was a lessee of the forests of *Aliceholt* and *Wolmer* before brigadier-general *Emanuel Scroope Howe*.

[g] See Letter II. of these Antiquities.

[h] *Hocheleye*, now spelt *Hawkley*, is in the hundred of *Selborne*, and has a mill at this day.

the following manner: "*Edwardus*, Dei gratia, &c. dilecto et "fideli suo *Ade Gurdon* salutem;" and again, "Custodi fo- "reste sue de *Wolvemere*."

In the year 1293 a quarrel between the crews of an *English* and a *Norman* ship, about some trifle, brought on by degrees such serious consequences, that in 1295 a war broke out between the two nations. The *French* king, *Philip the Hardy*, gained some advantages in *Gascony;* and, not content with those, threatened *England* with an invasion, and, by a sudden attempt, took and burnt *Dover*.

Upon this emergency *Edward* sent a writ to *Gurdon*, ordering him and four others to enlist three thousand soldiers in the counties of *Surrey*, *Dorset*, and *Wiltshire*, able-bodied men, "tam sagittare quam balistare potentes:" and to see that they were marched, by the feast of *All Saints*, to *Winchelsea*, there to be embarked aboard the king's transports.

The occasion of this armament appears also from a summons to the bishop of *Winchester* to parliament, part of which I shall transcribe on account of the insolent menace which is said therein to have been denounced against the *English* language:—"qualiter rex *Franciæ* de terra nostra "*Gascon* nos fraudulenter et cautelose decepit, eam nobis "nequiter detinendo . . . vero predictis fraude et nequitia "non contentus, ad expurgationem regni nostri classe max- "ima et bellatorum copiosa multitudine congregatis, cum "quibus regnum nostrum et regni ejusdem incolas hostiliter "jam invasurus, *linguam Anglicam*, si concepte iniquitatis "proposito detestabili potestas correspondeat, quod Deus "avertat, *omnino de terra delere proponit*." Dated 30th September, in the year of king *Edward's* reign xxiii.[1]

The above are the last traces that I can discover of *Gurdon's* appearing and acting in public. The first notice that my evidences give of him is, that, in 1232, being the 16th of *Henry* III. he was the king's bailiff, with others, for the town of *Alton*. Now, from 1232 to 1295 is a space of sixty-three years; a long period for one man to be employed in

[1] Reg. *Wynton, Stratford,* but query *Stratford*; for *Stratford* was not bishop of *Winton* till 1323, near thirty years afterwards.

active life! Should any one doubt whether all these particulars can relate to one and the same person, I should wish him to attend to the following reasons why they might. In the first place, the documents from the priory mention but one Sir *Adam Gurdon*, who had no son lawfully begotten: and in the next, we are to recollect that he must have probably been a man of uncommon vigour both of mind and body; since no one, unsupported by such accomplishments, could have engaged in such adventures, or could have borne up against the difficulties which he sometimes must have encountered: and, moreover, we have modern instances of persons that have maintained their abilities for near that period.

Were we to suppose *Gurdon* to be only twenty years of age in 1232, in 1295 he would be eighty-three; after which advanced period it could not be expected that he should live long. From the silence, therefore, of my evidences it seems probable that this extraordinary person finished his life in peace, not long after, at his mansion of *Temple*. *Gurdon's* seal had for it's device—a man, with a helmet on his head, drawing a cross-bow; the legend, "*Sigillum Ade de Gurdon*;" his arms were, "Goulis, iii floures argent issant de testes de "leopards."[k]

If the stout and unsubmitting spirit of *Gurdon* could be so much influenced by the belief and superstition of the times, much more might the hearts of his ladies and daughter. And accordingly we find that *Ameria*, by the consent and advice of her sons, though said to be all under age, makes a grant for ever of some lands down by the stream at *Durton;* and also of her right of the common of *Durton* itself.[l] *Johanna*, the daughter and heiress of Sir *Adam*, was married, I find, to *Richard Achard;* she also grants to the prior and convent lands and tenements in the village of *Selborne*, which her father obtained from *Thomas Makerel;* and also all her goods

[k] From the collection of *Thomas Martin*, Esq. in the Antiquarian Repertory, p. 109, N° XXXI.

[l] *Durton*, now called *Dorton*, is still a common for the copyholders of *Selborne* manor.

and chattels in *Selborne* for the consideration of two hundred pounds sterling. This last business was transacted in the first year of *Edward* II. viz. 1307. It has been observed before that *Gurdon* had a natural son: this person was called by the name of *John Dastard*, alias *Wastard*, but more probably *Bastard;* since bastardy in those days was not deemed any disgrace, though dastardy was esteemed the greatest. He was married to *Gunnorie Duncun;* and had a tenement and some land granted him in *Selborne* by his sister *Johanna.*

LETTER XI.

THE *Knights Templars*,[m] who have been mentioned in a former letter, had considerable property in *Selborne;* and also

The MILITARY ORDERS *of the* RELIGIOUS.

[m] The *Knights Hospitalars* of *St. John of Jerusalem*, afterwards called *Knights of Rhodes*, now of *Malta*, came into *England* about the year 1100, 1 *Hen.* I.

The *Knights Templars* came into *England* pretty early in *Stephen's* reign, which commenced 1135. The order was dissolved in 1312, and their estates given by act of Parliament to the *Hospitalars* in 1323. (all in *Edw.* II.) though many of their estates were never actually enjoyed by the said *Hospitalars.* *Vid. Tanner*, p. xxiv. x.

The *commandries* of the *Hospitalars*, and *preceptories* of *Templars*, were each subordinate to the principal house of their respective religion in *London.* Although these are the different denominations, which *Tanner* at p. xxviii. assigns to the cells of these different orders, yet throughout the work very frequent instances occur of *preceptories* attributed to the *Hospitalars;* and if in some passages of *Notitia Monast. commandries* are attributed to the *Templars*, it is only where the place afterwards became the property of the *Hospitalars*, and so is there indifferently styled *preceptory* or *commandry;* see p. 243, 263, 276, 577, 678. But, to account for the first observed inaccuracy, it is probable the *preceptories* of the *Templars*, when given to the *Hospitalars*, were still vulgarly, however, called by their old name of *preceptories;* whereas in propriety the societies of the *Hospitalars* were indeed (as has been said) *commandries.* And such deviation from the strictness of expression in this case might

a *preceptory* at *Sudington*, now called *Southington*, a hamlet lying one mile to the east of the village. Bishop *Tanner* mentions only two such houses of the *Templars* in all the county of *Southampton*, viz. *Godesfield*, founded by *Henry de Blois*, bishop of *Winchester*, and *South Badeisley*, a preceptory of the *Knights Templars*, and afterwards of *St. John of Jerusalem*, valued at one hundred and eighteen pounds sixteen shillings and seven pence *per annum*. Here then was a *preceptory* unnoticed by antiquaries, between the village and *Temple*. Whatever the edifice of the *preceptory* might have been, it has long since been dilapidated; and the whole hamlet contains now only one mean farm-house, though there were two in the memory of man.

It has been usual for the religious of different orders to fall into great dissensions, and especially when they were near

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occasion those societies of *Hospitalars* also to be indifferently called *preceptories*, which had *originally* been vested in *them*, having never belonged to the *Templars* at all.—See in *Archer*, p. 609. *Tanner*, p. 300. col. 1. 720. note *e*.

It is observable that the very statute for the dissolution of the *Hospitalars* holds the same language; for there, in the enumeration of particulars, occur "*commandries, preceptories.*" *Codex*, p. 1190. Now this intercommunity of names, and that in an act of parliament too, made some of our ablest antiquaries look upon a *preceptory* and *commandry* as strictly synonymous; accordingly we find *Camden*, in his *Britannia*, explaining *præceptoria* in the text by a *commandry* in the margin, p. 356, 510. J. L.

Commandry, a manor or chief messuage with lands, &c. belonging to the priory of St. *John of Jerusalem;* and he who had the government of such house was called the *commander*, who could not dispose of it but to the use of the priory, only taking thence his own sustenance, according to his degree, who was usually a brother of the same priory. *Cowell.* He adds (confounding these with *preceptories)* they are in many places termed *Temples*, as *Temple Bruere* in *Lincolnshire*, &c. *Preceptories* were possessed by the more eminent sort of *Templars*, whom the chief master created and called *Præceptores Templi. Cowell*, who refers to *Stephens* de Jurisd. lib. 4. c. 10. num. 27.

Placita de juratis et assis coram Salom. de Roff et sociis suis justic. Itiner. apud Wynton. &c. anno regni R. Edwardi fil. Reg. Hen. octavo. —"et Magr. Milicie Templi in Angl. ht emendassē panis, & suis [cere-"visiæ] in *Sodington*, & nescint q°. war. et—et magist. Milicie Templi "nōn vēn iō distr." *Chapter-house, Westminster.*

neighbours. Instances of this sort we have heard of between the monks of *Canterbury*; and again between the old abbey of St. *Swythun*, and the comparatively new minster of *Hyde* in the city of *Winchester*.[n] These feuds arose probably from different orders being crowded within the narrow limits of a city, or garrison-town, where every inch of ground was precious, and an object of contention. But with us, as far as my evidences extend, and while *Robert Saunford* was *master*,[o] and *Richard Carpenter* was *preceptor*, the *Templars* and the *Priors* lived in an intercourse of mutual good offices.

My papers mention three transactions, the exact time of which cannot be ascertained, because they fell out before dates were usually inserted; though probably they happened about the middle of the thirteenth century; not long after

Notitia Monastica, p. 155.

[n] "*Winchester, Newminster.* King *Alfred* founded here first only a "house and chapel for the learned monk *Grimbald*, whom he had brought "out of *Flanders:* but afterwards projected, and by his will ordered, a "noble church or religious house to be built in the cemetery on the "north side of the old minster or cathedral; and designed that *Grim-* "*bald* should preside over it. This was begun A.D. 901, and finished to "the honour of the *Holy Trinity, Virgin Mary*, and *St. Peter*, by his "son king *Edward*, who placed therein secular canons: but A.D. 963 "they were expelled, and an abbot and monks put in possession by "bishop *Ethelwold.*

"Now the churches and habitations of these two societies being so "very near together, the differences which were occasioned by their "singing, bells, and other matters, arose to so great a height, that the "religious of the new monastery thought fit, about A.D. 1119, to remove "to a better and more quiet situation without the walls, on the north "part of the city called HYDE, where king *Henry* I. at the instance of "*Will. Gifford*, bishop of *Winton*, founded a stately abbey for them. "St. *Peter* was generally accounted patron; though it is sometimes "called the monastery of St. *Grimbald*, and sometimes of St. *Barna-* "*bas*," &c.

Note. A few years since a county bridewell, or house of correction, has been built on the immediate site of *Hide Abbey*. In digging up the old foundations the workmen found the head of a crosier in good preservation.

[o] *Robert Saunforde* was *master* of the *Temple* in 1241; *Guido de Foresta* was the next in 1292. The former is fifth in a list of the *masters* in a MS. *Bib. Cotton. Nero.* E. VI.

Saunford became *master*. The first of these is that the *Templars* shall pay to the priory of *Selborne*, annually, the sum of ten shillings at two half yearly payments from their chamber, "*camera*," at *Sudington*, "per manum *preceptoris*, "vel *ballivi* nostri, qui pro tempore fuerit ibidem," till they can provide the *prior* and canons with an equivalent in lands or rents within four or five miles of the said convent. It is also further agreed that, if the *Templars* shall be in arrears for one year, that then the *prior* shall be empowered to distrain upon their live stock in *Bradeseth*. The next matter was a grant from *Robert de Saunford* to the *priory* for ever, of a good and sufficient road, "*cheminum*," capable of admitting carriages, and proper for the drift of their larger cattle, from the way which extends from *Sudington* towards *Blakemere*, on to the lands which the convent possesses in *Bradeseth*.

The third transaction (though for want of dates we cannot say which happened first and which last) was a grant from *Robert Samford* to the priory of a tenement and its appurtenances in the village of *Selborne*, given to the *Templars* by *Americus de Vasci*.[p] This property, by the manner of describing it,—"totum tenementum cum omnibus pertinentiis "suis, scilicet in terris, & *hominibus*, in pratis & pascuis, & "nemoribus," &c. seems to have been no inconsiderable purchase, and was sold for two hundred marks sterling, to be applied for the buying of more land for the support of the holy war.

Prior *John* is mentioned as the person to whom *Vasci's* land is conveyed. But in *Willis's* list there is no prior *John* till 1339, several years after the dissolution of the order of the *Templars* in 1312; so that unless *Willis* is wrong, and has omitted a prior *John* since 1262, (that being the date of his first prior) these transactions must have fallen out before that date.

[p] *Americus Vasci*, by his name, must have been an *Italian*, and had been probably a soldier of fortune, and one of *Gurdon's* captains. *Americus Vespucio*, the person who gave name to the new world was a *Florentine*.

I find not the least traces of any concerns between *Gurdon* and the *Knights Templars;* but probably after his death his daughter *Johanna* might have, and might bestow, *Temple* on that order in support of the holy land: and, moreover, she seems to have been moving from *Selborne* when she sold her goods and chattels to the priory, as mentioned above.

Temple no doubt did belong to the knights, as may be asserted, not only from it's name, but also from another corroborating circumstance of it's being still a manor *tithe-free*; "for, by virtue of their order," says Dr. *Blackstone*, "the "lands of the *Knights Templars* were privileged by the pope "with a discharge from tithes."

Antiquaries have been much puzzled about the terms *preceptores* and *preceptorium*, not being able to determine what officer or edifice was meant. But perhaps all the while the passage quoted above from one of my papers "per manum "*preceptoris* vel *ballivi* nostri, qui pro tempore fuerit ibidem," may help to explain the difficulty. For if it be allowed here that *preceptor* and *ballivus* are synonymous words, then the brother who took on him that office resided in the house of the *Templars* at *Sudington*, a *preceptory;* where he was their *preceptor*, superintended their affairs, received their money; and, as in the instance there mentioned, paid from their chamber, "*camera*," as directed: so that, according to this explanation, a *preceptor* was no other than a steward, and a *preceptorium* was his residence. I am well aware that, according to strict Latin, the *vel* should have been *seu* or *sive*, and the order of the words "*preceptoris nostri*, vel ballivi, "qui"—et "*ibidem*" should have been *ibi; ibidem* necessarily having reference to two or more persons: but it will hardly be thought fair to apply the niceties of classic rules to the Latinity of the thirteenth century, the writers of which seem to have aimed at nothing farther than to render themselves intelligible.

There is another remark that we have made, which, I think, corroborates what has been advanced; and that is, that *Richard Carpenter*, *preceptor* of *Sudington*, at the time of the transactions between the *Templars* and *Selborne* Priory, did always

sign *last* as a witness in the three deeds: he calls himself *frater*, it is true, among many other brothers, but subscribes with a kind of deference, as if, for the time being, his *office* rendered him an inferior in the community.[q]

LETTER XII.

The ladies and daughter of Sir *Adam Gurdon* were not the only benefactresses to the Priory of *Selborne;* for, in the year 1281, *Ela Longspee* obtained masses to be performed for her soul's health; and the prior entered into an engagement that one of the convent should every day say a special mass for ever for the said benefactress, whether living or dead. She also engaged within five years to pay to the said convent one hundred marks of silver for the support of a *chantry* and *chantry-chaplain*, who should perform his masses daily in the parish church of *Selborne*.[r] In the east end of the south aisle

[q] In two or three ancient records relating to St. *Oswald's* hospital in the city of *Worcester*, printed by Dr. *Nash*, p. 227 and 228, of his collections for the history of *Worcestershire*, the words *preceptorium* and *preceptoria* signify the *mastership* of the said hospital: "ad *preceptorium* "sive *magisterium* presentavit—*preceptorii* sive *magisterii* patronus. Va- "cavit dicta *preceptoria* seu *magisterium*—ad *preceptoriam* et regimen "dicti hospitalis—Te *preceptorem* sive magistrum prefecimus."

Where *preceptorium* denotes a building or apartment it may probably mean the master's lodgings, or at least the *preceptor's* apartment, whatsoever may have been the office or employment of the said preceptor.

A *preceptor* is mentioned in *Thoresby's Ducatus Leodinensis*, or History of *Leeds*, p. 225, and a deed witnessed by the *preceptor* and chaplain before dates were inserted.—*Du Fresne's* Supplement: "*Preceptoriæ*, "prædia *preceptoribus* assignata."—*Cowell*, in his Law Dictionary, enumerates sixteen *preceptoriæ*, or *preceptories*, in *England;* but *Sudington* is not among them.—It is remarkable that *Gurtlerus*, in his *Historia Templariorum* Amstel. 1691, never once mentions the words *preceptor* or *preceptorium*.

[r] A *chantry* was a chapel joined to some cathedral or parish church, and endowed with annual revenues for the maintenance of one or more priests to sing mass daily for the soul of the founder, and others.

there are two sharp-pointed gothic niches; one of these probably was the place under which these masses were performed; and there is the more reason to suppose as much, because, till within these thirty years, this space was fenced off with *gothic* wooden railing, and was known by the name of the south chancel.[s]

The solicitude expressed by the donor plainly shews her piety and firm persuasion of the efficacy of prayers for the dead; for she seems to have made every provision for the payment of the sum stipulated within the appointed time; and to have felt much anxiety lest her death, or the neglect of her executors or assigns, might frustrate her intentions.—"Et si contingat me in solucione predicte pecunie annis predictis in parte aut in toto deficere, quod absit; concedo et obligo pro me et assignatis meis, quod *Vice-Comes* - - - *Oxon* et - - - - - qui pro tempore fuerint, per omnes terras et tenementa, et omnia bona mea mobilia et immobilia ubicunque in balliva sua fuerint inventa ad solucionem predictam faciendam possent nos compellere." And again—"Et si contingat dictos religiosos labores seu expensas facere circa predictam pecuniam, seu circa partem dicte pecunie; volo quod dictorum religiosorum impense et labores levantur ita quod predicto priori vel uni canonicorum suorum super hiis simplici verbo credatur sine alterius honore probacionis; et quod utrique predictorum virorum in unam marcam argenti pro cujuslibet distrincione super me facienda tenear. —Dat. apud *Wareborn die sabati* proxima ante festum *St. Marci* evangeliste, anno regni regis *Edwardi* tertio decimo."[t]

But the reader perhaps would wish to be better informed

[s] For what is said more respecting this chantry see Letter III. of these Antiquities.—Mention is made of a *Nicholas Langrish*, capellanus de *Selborne*, in the time of *Henry* VIII. Was he chantry-chaplain to *Ela Longspee*, whose masses were probably continued to the time of the reformation? More will be said of this person hereafter.

[t] Ancient deeds are often dated on a *Sunday*, having been executed in churches and church-yards for the sake of notoriety, and for the conveniency of procuring several witnesses to attest.

respecting this benefactress, of whom as yet he has heard no particulars.

The *Ela Longspee* therefore above-mentioned was a lady of high birth and rank, and became countess to *Thomas de Newburgh*, the sixth earl of *Warwick:* she was the second daughter of the famous *Ela Longspee*, countess of *Salisbury*, by *William Longspee*, natural son of king *Henry* II. by *Rosamond*.

Our lady, following the steps of her illustrious mother,[u] "was a great benefactress to the university of *Oxford*, to the "canons of *Oseney*, the nuns of *Godstow*, and other religious "houses in *Oxfordshire*. She died very aged in the year "1300,[x] and was buried before the high altar in the abbey "church of *Oseney*, at the head of the tomb of *Henry D'Oily*, "under a flat marble, on which was inlaid her portraiture, in "the habit of a vowess, engraved on a copper-plate."——*Edmonson's History and Genealogical Account of the Grevilles*, p. 23.

LETTER XIII.

The reader is here presented with five forms respecting the choosing of a prior; but as they are of some length they must be reserved for the Appendix; their titles are N°. 108. "Charta petens licentiam elegendi *prelatum* a Domino epis-"copo *Wintoniensi:*"—"Forma licentie concesse:"—"Forma "decreti post electionem conficiendi:"—108. "Modus pro-"cedendi ad electionem per formam scrutinii:"—et "Forma "ricte presentandi electum." Such evidences are rare and curious, and throw great light upon the general *monastico-ecclesiastical* history of this kingdom, not yet sufficiently understood.

[u] *Ela Longspee*, countess of *Salisbury*, in 1232 founded a monastery at *Lacock*, in the county of *Wilts*, and also another at *Hendon*, in the county of *Somerset*, in her widowhood, to the honour of the Blessed Virgin and St. *Bernard*. CAMDEN.

[x] Thus she survived the foundation of her chantry at *Selborne* fifteen years. About this lady and her mother consult *Dugdale's* Baronage, I. 72, 175, 177.——*Dugdale's* Warwickshire, I. 383,—*Leland's* Itin. II. 45.

In the year 1324 there was an election for a prior at *Selborne;* when some difficulties occurring, and a devolution taking place, application was made to *Stratford*, who was bishop of *Winchester* at that time, and of course the visitor and patron of the convent at the spot above-mentioned.[y]

An extract from REG. STRATFORD. *Winton.*

P. 4. "Commissio facta sub-priori de *Selebourne*" by the bishop enjoining him to preserve the discipline of the order in the convent during the vacancy made by the late death of the prior, ("super pastoris solatio destituta,") dated 4th. kal. Maii. ann. 2do sc. of his consecration. [sc. 1324.]

P. 6. "Custodia Prioratus de *Seleburne* vacantis," committed by the bishop to *Nicholas de la* - - -, a layman, it belonging to the bishop "ratione vacationis ejusdem," in *July* 1324, ibid. "negotium electionis de *Selebourne*. Acta coram "*Johanne* Episcopo, &c. 1324 in negotio electionis de fratre "*Waltero de Insula* concanonico prioratus de *Selebourne*," lately elected by the sub-prior and convent, by way of scrutiny: that it appeared to the bishop, by certificate from the dean of *Alton*, that solemn citation and proclamation had been made in the church of the convent where the election was held, that any who opposed the said election or elected should appear.—Some difficulties were started, which the bishop over-ruled, and confirmed the election, and admitted the new prior *sub hac forma:*—

"In Dei nomine Amen. Ego *Johannes* permissione divina, "&c. te *Walterum de Insula* ecclesie *de Selebourne* nostre "dioceseos nostrique patronatus vacantis, canonicum et can- "torem, virum utique providum, et discretum, literarum "scientia preditum, vita moribus et conversatione merito "commendatum, in ordine sacerdotali et etate legitima con- "stitutum, de legitimo matrimonio procreatum, in ordine et "religione *Sancti Augustini de Selebourne* expresse professum,

[y] *Stratford* was bishop of *Winchester* from 1323 to 1333, when he was translated to *Canterbury*.

"in spiritualibus et temporalibus circumspectum, *jure* nobis "hac vice *devoluto* in hac parte, in dicte ecclesie de *Selebourne* "perfectum priorem; curam et administrationem ejusdem tibi "in spiritualibus et temporalibus committentes. Dat. apud "*Selebourne* XIII kalend. Augusti anno supradicto."

There follows an order to the sub-prior and convent pro obedientia:

A mandate to *Nicholas* above-named to release the Priory to the new prior:

A mandate for the induction of the new prior.

LETTER XIV.

"In the year 1373 *Wykeham*, bishop of *Winchester*, held a "visitation of his whole diocese; not only of the secular "clergy through the several deaneries, but also of the monas- "teries, and religious houses of all sorts, which he visited in "person. The next year he sent his commissioners with "power to correct and reform the several irregularities and "abuses which he had discovered in the course of his visi- "tation.

"Some years afterward, the bishop having visited *three* "*several times* all the religious houses throughout his diocese, "and being well informed of the state and condition of each, "and of the particular abuses which required correction and "reformation, besides the orders which he had already given, "and the remedies which he had occasionally applied by his "commissioners, now issued his injunctions to each of them. "They were accommodated to their several exigencies, and "intended to correct the abuses introduced, and to recall them "all to a strict observation of the rules of their respective "orders. Many of these injunctions are still extant, and are "evident monuments of the care and attention with which he "discharged this part of his episcopal duty."[z]

[z] See *Lowth's* Life of *Wykeham*.

Some of these injunctions I shall here produce; and they are such as will not fail, I think, to give satisfaction to the antiquary, both as never having been published before, and as they are a curious picture of monastic irregularities at that time.

The documents that I allude to are contained in the *Notabilis Visitatio de Seleburne*, held at the Priory of that place, by *Wykeham* in person, in the year 1387.

This evidence, in the original, is written on two skins of parchment; the one large, and the other smaller, and consists of a *preamble*, 36 *items*, and a *conclusion*, which altogether evince the patient investigation of the visitor, for which he had always been so remarkable in all matters of moment, and how much he had at heart the regularity of those institutions, of whose efficacy in their prayers for the dead he was so firmly persuaded. As the bishop was so much in earnest, we may be assured that he had nothing in view but to correct and reform what he found amiss; and was under no bias to blacken, or misrepresent, as the commissioners of *Thomas* Lord *Cromwell* seem in part to have done at the time of the reformation.[a] We may therefore with reason suppose that the bishop gives us an exact delineation of the morals and manners of the canons of *Selborne* at that juncture; and that what he found they had omitted he enjoins them; and for what they have done amiss, and contrary to their rules and statutes, he reproves them; and threatens them with punishment suitable to their irregularities.

This *visitatio* is of considerable length, and cannot be introduced into the body of this work; we shall therefore refer the reader to the *Appendix*, where he will find every particular, while we shall take some notice, and make some remarks, on the most singular *items* as they occur.

In the preamble the visitor says—"Considering the charge "lying upon us, that your blood may not be required at our "hands, we came down to visit your Priory, as our office re- "quired: and every time we repeated our visitation we found

[a] Letters of this sort from Dr. *Layton* to *Thomas* Lord *Cromwell* are still extant.

"something still not only contrary to regular rules but also "repugnant to religion and good reputation."

In the first article after the preamble—"he commands them "on their obedience, and on pain of the greater excommuni- "cation, to see that the canonical hours by night and by day "be sung in their choir, and the masses of the Blessed *Mary*, "and other accustomed masses, be celebrated at the proper "hours with devotion, and at moderate pauses; and that it be "not allowed to any to absent themselves from the hours and "masses, or to withdraw before they are finished."

Item 2d. He enjoins them to observe that silence to which they are so strictly bound by the rule of Saint *Augustine* at stated times, and wholly to abstain from frivolous conversation.

Item 4th. "Not to permit such frequent passing of secular "people of both sexes through their convent, as if a tho- "roughfare, from whence many disorders may and have "arisen."

Item 5th. "To take care that the doors of their church "and Priory be so attended to that no suspected and dis- "orderly females, 'suspectæ et aliæ inhonestæ,' pass through "their choir and cloister in the dark;" and to see that the doors of their church between the nave and the choir, and the gates of their cloister opening into the fields, be constantly kept shut until their first choir-service is over in the morning, at dinner time, and when they meet at their evening collation.[b]

Item 6th mentions that several of the canons are found to be very ignorant and illiterate, and enjoins the prior to see that they be better instructed by a proper master.

Item 8th. The canons are here accused of refusing to accept of their statutable clothing year by year, and of demanding a certain specified sum of money, as if it were their annual rent and due. This the bishop forbids, and orders that the canons shall be clothed out of the revenue of the Priory, and the old garments be laid by in a chamber, and given to the poor, according to the rule of Saint *Augustine*.

[b] A Collation was a meal or repast on a fast day in lieu of a supper.

In *Item* 9th is a complaint that some of the canons are given to wander out of the precincts of the convent without leave; and that others ride to their manors and farms, under pretence of inspecting the concerns of the society, when they please, and stay as long as they please. But they are enjoined never to stir either about their own private concerns or the business of the convent without leave from the prior: and no canon is to go alone, but to have a grave brother to accompany him.

The injunction in *Item* 10th, at this distance of time, appears rather ludicrous; but the visitor seems to be very serious on the occasion, and says that it has been evidently proved to him that some of the canons, living dissolutely after the flesh, and not after the spirit, sleep naked in their beds without their breeches and shirts, "absque femoralibus et "camisiis."[c] He enjoins that these culprits shall be punished by severe fasting, especially if they shall be found to be faulty a third time; and threatens the prior and sub-prior with suspension if they do not correct this enormity.

In *Item* 11th the good bishop is very wroth with some of the canons, whom he finds to be professed hunters and sportsmen, keeping hounds, and publicly attending hunting-matches. These pursuits, he says, occasion much dissipation, danger to the soul and body, and frequent expense; he, therefore, wishing to extirpate this vice wholly from the convent, "*radicibus* "*extirpare*," does absolutely enjoin the canons never intentionally to be present at any public noisy tumultuous huntings; or to keep any hounds, by themselves or by others, openly or by stealth, within the convent, or without.[d]

[c] The rule alluded to in *Item* 10th, of not sleeping naked, was enjoined the *Knights Templars*, who also were subject to the rules of St. *Augustine*. See *Gurtleri Hist. Templariorum.*

[d] Considering the strong propensity in human nature towards the pleasures of the chase, it is not to be wondered that the canons of *Selborne* should languish after hunting, when, from their situation so near the precincts of *Wolmer-forest*, the king's hounds must have been often in hearing, and sometimes in sight from their windows.—If the bishop was so offended at these sporting canons, what would he have said to our modern fox-hunting divines?

In *Item* 12th he forbids the canons in office to make their business a plea for not attending the service of the choir; since by these means either divine worship is neglected or their brother-canons are over-burdened.

By *Item* 14th we are informed that the original number of canons at the Priory of *Selborne* was *fourteen;* but that at this visitation they were found to be let down to *eleven.* The visitor therefore strongly and earnestly enjoins them that, with all due speed and diligence, they should proceed to the election of proper persons to fill up the vacancies, under pain of the greater excommunication.

In *Item* 17th. the prior and canons are accused of suffering, through neglect, notorious dilapidations to take place among their manerial houses and tenements, and in the walls and enclosures of the convent itself, to the shame and scandal of the institution; they are therefore enjoined, under pain of suspension, to repair all defects within the space of six months.

Item 18th. charges them with grievously burthening the said Priory by means of sales, and grants of *liveries*[e] and *corrodies.*[f]

The bishop, in *item* 19th, accuses the canons of neglect and omission with respect to their perpetual *chantry-services.*

Item 20th. The visitor here conjures the prior and canons not to withhold their original *alms,* "*eleemosynas;*" nor those that they were enjoined to distribute for the good of the souls of founders and benefactors: he also strictly orders that the fragments and broken victuals, both from the hall of their prior and their common refectory, should be carefully collected together by their *eleemosynarius,* and given to the poor

[e] "*Liberationes,* or *liberaturæ,* allowances of corn, &c. to servants *deli-*
"*vered* at certain times, and in certain quantities, as *clothes* were among
"the allowances from religious houses to their dependants. See the
"*corrodies* granted by *Croyland abbey.*"

Hist. of Croyland, Appendix, N° XXXIV.

"It is not improbable that the word in after-ages came to be confined
"to the uniform of the retainers or servants of the great, who were hence
"called *livery servants.*" *Sir John Cullum's Hist. of Hawsted.*

[f] A *corrody* is an allowance to a servant living in an abbey or priory.

without any diminution; the officer to be suspended for neglect or omission.

Item 23d. He bids them distribute their *pittances*, "*pitancias*,"[g] regularly on obits, anniversaries, festivals, &c.

Item 25th. All and every one of the canons are hereby inhibited from standing godfather to *any boy* for the future, "ne "*compatres alicujus pueri* de cetero fieri presumatis," unless by express license from the bishop obtained; because from such relationship favour and affection, nepotism, and undue influence, arise, to the injury and detriment of religious institutions.[h]

Item 26th. The visitor herein severely reprimands the canons for appearing publicly in what would be called in the universities an *unstatutable manner*, and for wearing of boots, "caligæ de *Burneto*, et *sotularium*———in ocrearum loco, ad "modum sotularium."[i]

It is remarkable that the bishop expresses more warmth

[g] "*Pitancia*, an allowance of bread and beer, or other provision to any "pious use, especially to the religious in a monastery, &c. for augmenta- "tion of their commons." *Gloss. to Kennet's Par. Antiq.*

[h] "The relationship between sponsors and their god-children, who "were called *spiritual sons* and *daughters*, was formerly esteemed much "more sacred than at present. The presents at christenings were some- "times very considerable: the connection lasted through life, and was "closed with a legacy. This last mark of attention seems to have been "thought almost indispensable: for, in a will, from whence no extracts "have been given, the testator left every one of his god-children a bushel "of barley." *Sir John Cullum's Hist. of Hawsted.*

"D. *Margaretæ* filiæ Regis primogenitæ, quam *filiolam*, quia ejus in "baptismo *compater* fuit, appellat, cyphum aureum et quadraginta libras, "legavit."—Archbishop *Parker* de Antiquitate Eccles. Brit. speaking of Archbishop *Morton*.

[i] *Du Fresne* is copious on *caligæ* of several sorts. "Hoc item de "Clericis, presertim beneficiatis: *caligis* scacatis (chequered) rubeis, et "viridibus publice utentibus dicimus esse censendum." *Statut. Eccles. Tutel.* The chequered boots seem to be the highland plaid stockings.— "*Burnetum*, i.e. *Brunetum*, pannus non ex lanâ nativi coloris confectus." —"*Sotularium*, i.e. subtalaris, quia sub talo est. Peculium genus, quibus "maxime Monachi nocte utebantur in æstate: in hyeme vero Soccis."

This writer gives many quotations concerning *Sotularia*, which were not to be made too shapely; nor were the *caligæ* to be laced on too nicely.

against this than any other irregularity; and strictly enjoins them, under pain of ecclesiastical censures, and even imprisonment if necessary (a threat not made use of before,) for the future to wear boots, "ocreis seu botis," according to the regular usage of their ancient order.

Item 29th. He here again, but with less earnestness, forbids them foppish ornaments, and the affectation of appearing like beaux with garments edged with costly furs, with fringed gloves, and silken girdles trimmed with gold and silver. It is remarkable that no punishment is annexed to this injunction.

Item 31st. He here singly and severally forbids each canon not admitted to a cure of souls to administer extreme unction, or the sacrament, to clergy or laity; or to perform the service of matrimony, till he has taken out the license of the parish priest.

Item 32d. The bishop says in this *item* that he had observed and found, in his several visitations, that the sacramental plate and cloths of the altar, surplices, &c. were sometimes left in such an uncleanly and disgusting condition as to make the beholders shudder with horror;—quod aliquibus sunt horrori;"[k] he therefore enjoins them for the future to see that the plate, cloths, and vestments, be kept bright, clean, and in decent order: and, what must surprise the reader, adds —that he expects for the future that the sacrist should provide for the sacrament good wine, pure and unadulterated; and not, as had often been the practice, that which was sour, and tending to decay:—he says farther, that it seems quite preposterous to omit in sacred matters that attention to decent

[k] "Men abhorred the offering of the Lord." 1 *Sam. chap.* ii. *v.* 17. Strange as this account may appear to modern delicacy, the author, when first in orders, twice met with similar circumstances attending the sacrament at two churches belonging to two obscure villages. In the first he found the inside of the chalice covered with birds' dung; and in the other the communion-cloth soiled with cabbage and the greasy drippings of a gammon of bacon. The good dame at the great farm-house, who was to furnish the cloth, being a notable woman, thought it best to save her clean linen, and so sent a foul cloth that had covered her own table for two or three *Sundays* before.

cleanliness, the neglect of which would disgrace a common convivial meeting.[1]

Item 33d says that, though the relics of saints, the plate, holy vestments, and books of religious houses, are forbidden by canonical institutes to be pledged or lent out upon pawn; yet, as the visitor finds this to be the case in his several visitations, he therefore strictly enjoins the prior forthwith to recall those pledges, and to restore them to the convent; and orders that all the papers and title deeds thereto belonging should be safely deposited, and kept under three locks and keys.

In the course of the *Visitatio Notabilis* the *constitutions* of *Legate Ottobonus* are frequently referred to. *Ottobonus* was afterwards *Pope Adrian* V. and died in 1276. His constitutions are in *Lyndewood's Provinciale*, and were drawn up in the 52d of *Henry* III.

In the *Visitatio Notabilis* the usual punishment is fasting on bread and beer; and in cases of repeated delinquency on bread and water. On these occasions *quarta feria*, et *sexta feria*, are mentioned often, and are to be understood of the days of the *week* numerically on which such punishment is to be inflicted.

LETTER XV.

Though bishop *Wykeham* appears somewhat stern and rigid in his visitatorial character towards the Priory of *Selborne*, yet he was on the whole a liberal friend and benefactor to that convent, which, like every other society or individual that fell in his way, partook of the generosity and benevolence of that munificent prelate.

"In the year 1377 *William* of *Wykeham*, out of his mere "good will and liberality, discharged the whole debts of the

[1] "—— —— —— ne turpe toral, ne sordida mappa
"Corruget nares; ne non et cantharus, et lanx
"Ostendat tibi te —— —— ——"

" prior and convent of *Selborne*, to the amount of one hundred " and ten marks eleven shillings and sixpence;[m] and, a few " years before he died, he made a free gift of one hundred " marks to the same Priory: on which account the Prior and " convent voluntarily engaged for the celebration of two " masses a day by two canons of the convent for ten years, " for the bishop's welfare, if he should live so long; and for " his soul if he should die before the expiration of this " term."[n]

At this distance of time it seems matter of great wonder to us how these societies, so nobly endowed, and whose members were exempt by their very institution from every means of personal and family expense, could possibly run in debt without squandering their revenues in a manner incompatible with their function.

Religious houses might sometimes be distressed in their revenues by fires among their buildings, or large dilapidations from storms, &c.; but no such accident appears to have befallen the Priory at *Selborne*. Those situate on public roads, or in great towns, where there were shrines of saints, were liable to be intruded on by travellers, devotees, and pilgrims; and were subject to the importunity of the poor, who swarmed at their gates to partake of doles and broken victuals. Of these disadvantages some convents used to complain, and especially those at *Canterbury;* but this Priory, from it's sequestered situation, could seldom be subject to either of these inconveniences, and therefore we must attribute it's frequent debts and embarrassments, well endowed as it was, to the bad conduct of it's members, and a general inattention to the interests of the institution.

[m] Yet in ten years time we find, by the *Notabilis Visitatio*, that all their relics, plate, vestments, title-deeds, &c. were in pawn.

[n] *Lowth's* Life of *Wykeham*.

LETTER XVI.

BEAUFORT was bishop of *Winchester* from 1405 to 1447; and yet, notwithstanding this long episcopate, only tom. I. of *Beaufort's* Register is to be found. This loss is much to be regretted, as it must unavoidably make a gap in the history of *Selborne* Priory, and perhaps in the list of it's priors.

In 1410 there was an election for a prior, and again in 1411.

In vol. I. p. 24, of *Beaufort's* Register, is the instrument of the election of *John Winchestre* to be prior—the substance as follows:

Richard Elstede, senior canon, signifies to the bishop that brother *Thomas Weston*, the late prior, died *October* 18th, 1410, and was buried *November* 11th.—That the bishop's license to elect having been obtained, he and the whole convent met in the chapter-house, on the same day, about the hour of vespers, to consider of the election: that brother *John Wynchestre*, then sub-prior, with the general consent appointed the 12th of *November*, *ad horam ejusdem diei capitularem*, for the business:—when they met in the chapter-house, *post missam de sancto Spiritu*, solemnly celebrated in the church;—to wit, *Richard Elstede; Thomas Halyborne; John Lemyngton*, sacrista; *John Stepe*, cantor: *Walter Ffarnham; Richard Putworth*, celarius; *Hugh London; Henry Brampton*, alias *Brompton; John Wynchestre*, senior; *John Wynchestre*, junior;—then "Proposito primitus verbo Dei," and then ympno "Veni Creator Spiritus" being solemnly sung, cum "versiculo et oratione," as usual, and his letter of license, with the appointment of the hour and place of election, being read, *alta voce*, in valvis of the chapter-house;—*John Wynchestre*, senior, the sub-prior, in his own behalf and that of all the canons, and by their mandate, "quasdam monicionem et pro-"testacionem in scriptis redactas fecit, legit, et interposuit" —that all persons disqualified, or not having right to be pre-

sent, should immediately withdraw; and protesting against their voting, &c.—that then having read the constitution of the general council "Quia propter," and explained the modes of proceeding to election, they agreed unanimously to proceed "per viam seu formam *simplicis compromissi*;" when *John Wynchestre*, sub-prior, and all the others (the commissaries under-named excepted) named and chose brothers *Richard Elstede*, *Thomas Halyborne*, *John Lemynyton* the sacrist, *John Stepe*, chantor, and *Richard Putworth*, canons, to be commissaries, who were sworn each to nominate and elect a fit person to be prior: and empowered by letters patent under the common seal, to be in force only until the darkness of the night of the same day;—that they, or the greater part of them, should elect for the whole convent, within the limited time, from their own number, or from the rest of the convent;—that one of them should publish their consent in common before the clergy and people:—they then all promised to receive as prior the person these five canons should fix on. These commissaries seceded from the chapter-house to the refectory of the Priory, and were shut in with master *John Penkester*, bachelor of laws; and *John Couke* and *John Lynne*, perpetual vicars of the parish churches of *Newton* and *Selborne;* and with *Sampson Maycock*, a public notary; where they treated of the election; when they unanimously agreed on *John Wynchestre*, and appointed *Thomas Halyborne*, to choose him in common for all, and to publish the election, as customary; and returned long before it was dark to the chapter-house, where *Thomas Halyborne* read publicly the instrument of election; when all the brothers, the new prior excepted, singing solemnly the hymn "Te Deum laudamus," *fecerunt deportari novum electum*, by some of the brothers, from the chapter-house to the high altar of the church;° and the hymn being sung, *dictisque versiculo et oratione consuetis in hac parte*, Thomas Halyborne, *mox tunc ibidem*, before the clergy and people

° It seems here as if the canons used to *chair* their new elected prior from the chapter-house to the high altar of their convent-church. In letter XXI, on the same occasion, it is said—"et sic canentes dictum elec-"tum ad majus altare ecclesie *deduximus*, ut apud nos moris est."

of both sexes solemnly published the election *in vulgari*. Then *Richard Elstede*, and the whole convent by their proctors and nuncios appointed for the purposes, *Thomas Halyborne* and *John Stepe* required several times the assent of the elected; "et tandem post diutinas interpellationes, et deliberationem "providam penes se habitam, in hac parte divine nolens, ut "asseruit, resistere voluntati," within the limited time he signified his acceptance in the usual written form of words. The bishop is then supplicated to confirm their election, and do the needful, under common seal, in chapter-house. *November* 14, 1410.

The bishop, *January* 6, 1410, *apud* Esher *in camera inferiori*, declared the election duly made, and ordered the new prior to be inducted—for this the archdeacon of *Winchester* was written to; "stallumque in choro, et locum in capitulo juxta morem "preteriti temporis," to be assigned him; and every thing beside necessary to be done.

BEAUFORT'S REGISTER, Vol. I.

P. 2. Taxatio spiritualis Decanatus de *Aulton*, Ecclesia de *Selebourn*, cum Capella,—xxx marc. decima x lib. iii sol. Vicaria de *Selebourn* non taxatur propter exilitatem.

P. 9. Taxatio bonorum temporalium religiosorum in Archidiac. *Wynton*.

Prior de *Selebourn* habet maneria de

Bromdene taxat. ad - - - - - - - - -	xxx s. ii d.
Apud *Schete* ad - - - - - - - - - -	xvii s.
P. *Selebourn* ad - - - - - - - - - -	vi lib.
In civitate *Wynton* de reddit - - - - -	vi lib. viii. ob.
Tannaria sua taxat. ad. - - - - - - - -	x lib. s.
Summa tax. xxxviii lib. xiiii d. ob. Inde decima	vi lib. s. q. ob.

LETTER XVII.

INFORMATION being sent to *Rome* respecting the havock and spoil that was carrying on among the revenues and lands of

the Priory of *Selborne*, as we may suppose by the bishop of *Winchester*, it's visitor, *Pope Martin*,[p] as soon as the news of these proceedings came before him, issued forth a *bull*, in which he enjoins his commissary immediately to revoke all the property that had been alienated.

In this instrument his holiness accuses the prior and canons of having granted away (they themselves and their predecessors) to certain clerks and laymen their tithes, lands, rents, tenements, and possessions, to some of them for their lives, to others for an undue term of years, and to some again for a perpetuity, to the great and heavy detriment of the monastery: and these leases were granted, he continues to add, under their own hands, with the sanction of an oath and the renunciation of all right and claims, and under penalties, if the right was not made good.—But it will be best to give an abstract from the *bull*.

N. 298. *Pope Martin's bull* touching the revoking of certaine things alienated from the Priory of *Seleburne*. Pontif. sui. ann. 1.

"*Martinus* Eps. servus servorum Dei. Dilecto filio Priori "de *Suthvale*[q] *Wyntonien.* dioc. Salutem & apostolicam ben. "Ad audientiam nostram pervenit quam tam dilecti filii prior "et conventus monasterii de *Seleburn* per Priorem soliti "gubernari ordinis S^ti. *Augustini Winton.* dioc. quam de pre- "decessores eorum decimas, terras, redditus, domos, posses- "siones, *vineas*,[r] et quedam alia bona ad monasterium ipsum "spectantia, datis super hoc litteris, interpositis juramentis,

[p] *Pope Martin* V. chosen about 1417. He attempted to reform the church, but died in 1431, just as he had summoned the council of *Basil*.

[q] Should have been no doubt *Southwick*, a priory under *Portsdown*.

[r] Mr. *Barrington* is of opinion that anciently the English *vinea* was in almost every instance an orchard; not perhaps always of apples merely, but of other fruits; as cherries, plums, and currants. We still say a plum or cherry-orchard*. See vol. III. of *Archæologia*.

In the instance above the pope's secretary might insert *vineas* merely because they were a species of cultivation familiar to him in *Italy*.

* [The word *Orchard* had no reference originally to any particular kind of produce. It is derived from A.-S. *Ort*, a contraction of *Weort*, worts or plants, and *Geard*, yard, wort-yard or garden.—T. B.]

"factis renuntiationibus, et penis adjectis, in gravem ipsius "monasterii lesionem, nonnullis clericis et laicis, aliquibus "eorum ad vitam, quibusdam vero ad non modicum tempus, "& aliis perpetuo ad firman, vel sub censu annuo concesserunt; "quarum aliqui dicunt super hiis a sede ãplica in communi "forma confirmationis litteras impetrasse. Quia vero nostra "interest lesis monasteriis subvenire—[He the Pope here "commands]—ea ad jus et proprietatem monasterii studeas "legitime revocare," &c.

The conduct of the religious had now for some time been generally bad. Many of the monastic societies, being very opulent, were become voluptuous and licentious, and had deviated entirely from their original institutions. The laity saw with indignation the wealth and possessions of their pious ancestors perverted to the service of sensuality and indulgence; and spent in gratifications highly unbecoming the purposes for which they were given. A total disregard to their respective rules and discipline drew on the monks and canons a heavy load of popular odium. Some good men there were who endeavoured to oppose the general delinquency; but their efforts were too feeble to stem the torrent of monastic luxury. As far back as the year 1381 *Wickliffe's* principles and doctrines had made some progress, were well received by men who wished for a reformation, and were defended and maintained by them as long as they dared; till the bishops and clergy began to be so greatly alarmed, that they procured an act to be passed by which the secular arm was empowered to support the corrupt doctrines of the church; but the first lollard was not burnt till the year 1401.

The wits also of those times did not spare the gross morals of the clergy, but boldly ridiculed their ignorance and profligacy. The most remarkable of these were *Chaucer*, and his contemporary, *Robert Langelande*, better known by the name of *Piers Plowman*. The laughable tales of the former are familiar to every reader; while the *visions* of the latter are but in few hands. With a quotation from the *Passus Decimus* of this writer I shall conclude my letter; not only on account of the remarkable prediction therein contained, which

carries with it somewhat of the air of a prophecy; but also as it seems to have been a striking picture of monastic insolence and dissipation; and a specimen of one of the keenest pieces of satire now perhaps subsisting in any language, ancient or modern.

"Now is religion a rider, a romer by streate;
"A leader of love-days, and a loud begger;
"A pricker on a palfrey from maner to maner,
"A heape of hounds at his arse, as he a lord were.
"And but if his knave kneel, that shall his cope bring,
"He loureth at him, and asketh him who taught him curtesie.
"Little had lords to done, to give lands from her heirs,
"To religious that have no ruth if it rain on her altars.
"In many places ther they persons be, by himself at ease:
"Of the poor they have no pity, and that is her charitie;
"And they letten hem as lords, her lands lie so broad.
"And *there shal come a king*,[r] and confess you religious;
"And beate you, as the bible telleth, for breaking your rule,
"And amend monials, and monks, and chanons,
"And put hem to her penaunce *ad pristinum statum ire*."

LETTER XVIII.

WILLIAM of *Waynflete* became bishop of *Winchester* in the year 1447, and seems to have pursued the generous plan of *Wykeham* in endeavouring to reform the priory of *Selborne*.

[r] F. 1. a. "This prediction, although a probable conclusion concerning "a king who after a time would suppress the religious houses, is remark-"able. I imagined it might have been foisted into the copies in the reign "of king *Henry* VIII. but it is to be found in MSS. of this poem, older "than the year 1400." fol. 1. a. b.

"Again, where he, *Piers Plowman*, alludes to the *Knights Templars*, "lately suppressed, he says,

"—— —— —— Men of holie kirk
"Shall *turn as Templars* did; *the tyme approacheth nere*."

"This, I suppose, was a favourite doctrine in *Wickliffe's* discourses."
Warton's Hist. of English Poetry, Vol. I. p. 282.

When *Waynflete* came to the see he found prior *Stype*, alias *Stepe*, still living, who had been elected as long ago as the year 1411.

Among my documents I find a curious paper of the things put into the custody of *Peter Bernes* the sacrist, and especially some *relics:* the title of this evideuce is "N°. 50, Indentura "prioris de *Selborne* quorundam tradit. *Petro Bernes* sa- "cristæ, ibidem, ann. Hen. VI. --- una cum confiss. ejusdem "*Petri* script." The occasion of this catalogue, or list of effects, being drawn between the prior and sacrist does not appear, nor the date when; only that it happened in the reign of *Hen.* VI. This transaction probably took place when *Bernes* entered on his office; and there is the more reason to suppose that to be the case, because the list consists of vestments and implements, and relics, such as belonged to the church of the Priory, and fell under the care of the sacrist. For the numerous *items* I shall refer the curious reader to the Appendix, and shall just mention the relics, although they are not all specified; and the state of the live stock of the monastery at that juncture.

"Item 2. *osculatōr.* argent.

"Item 1. *osculatorium* cum *osse digiti auricular.*—*S^ti. Johannis Baptistæ.*[s]

"Item 1. parvam *crucem* cum V. *reliquiis.*

"Item 1. *anulum* argent. et deauratum *St. Edmundi.*[t]

"Item 2. *osculat.* de coper.

"Item 1. *junctorium St. Ricardi.*[u]

[s] How the convent came by the bone of the little finger of *Saint John the Baptist* does not appear; probably the founder, while in *Palestine*, purchased it among the *Asiatics*, who were at that time great traders in relics. We know from the best authority that as soon as *Herod* had cruelly beheaded that holy man "his disciples came and took up the "body and buried it, and went and told *Jesus.*" Matt. iv. 12.—Farther would be difficult to say.

[t] *November* 20, in the calendar, *Edmund* king and martyr, in the 9th century. See also a *Sanctus Edmundus* in *Godwin*, among the archbishops of *Canterbury*, in the 13th century; his surname *Rich*, in 1234.

[u] *April* 3, ibid. *Richard* bishop of *Chichester*, in the 13th century; his surname *De la Wich*, in 1245.

Junctorium, perhaps a *joint* or *limb* of St. *Richard;* but what particular

"Item 1. *pecten St. Ricardi.*[x]

The *staurum*, or live stock, is quite ridiculous, consisting only of "2 vacce, 1 sus, 4 hoggett. et 4 porcell." viz. two cows, one sow, four porkers, and four pigs.

LETTER XIX.

STEPE died towards the end of the year 1453, as we may suppose pretty far advanced in life, having been prior forty-four years.

On the very day that the vacancy happened, viz. *January* 26, 1453-4, the sub-prior and convent petitioned the visitor— "vos unicum levamen nostrum, et spem unanimiter rogamus, "quatinus eligendum ex nobis unum confratrem de gremio "nostro, in nostra religione probatum et expertem, licenciam "vestram paternalem cum plena libertate nobis concedere "dignemini graciose." *Reg. Waynflete*, tom. I.

Instead of the licence requested we find next a commission "custodie prioratus de *Selebourne* durante vacatione," addressed to brother *Peter Berne*, canon-regular of the priory of *Selebourne*, and of the order of St. *Augustine*, appointing him keeper of the said priory, and empowering him to collect and receive the profits and revenues, and "alia bona," of the said priory; and to exercise in every respect the full power and authority of a prior; but to be responsible to the visitor finally, and to maintain this superiority during the bishop's pleasure only. This instrument is dated from the bishop's

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joint the religious were not such osteologists as to specify. This barbarous word was not to be found in any dictionary consulted by the author.

[x] "*Pecten* inter ministeria sacra recensetur, quo scil. sacerdotes ac "clerici, antequam in ecclesiam procederent, crines pecterent. E quibus "colligitur monachos, tunc temporis, non omnino tonsos fuisse."

Du Fresne.

The author remembers to have seen in great farm houses a family comb chained to a post for the use of the hinds when they came into their meals.

manor-house in *Southwark*, *March* 1, 1453-4, and the seventh of his consecration.

After this transaction it does not appear that the chapter of the Priory proceeded to any election: on the contrary, we find that at six months end from the vacancy the visitor declared that a lapse had taken place; and that therefore he did confer the priorship on canon *Peter Berne*.—"Prioratum "vacantem et ad nostram collationem, seu provisionem jure "ad nos in hac parte *per lapsum* temporis legitime devolutu "spectantem, tibi (sc. *P. Berne*) de legitimo matrimonio "procreato, &c.—conferimus," &c. This deed bears date July 28, 1454. *Reg. Waynflete*, tom. I. p. 69.

On *February* 8, 1462, the visitor issued out a power of sequestration against the Priory of *Selborne* on account of notorious dilapidations which threatened manifest ruin to the roofs, walls, and edifices of the said convent; and appointing *John Hammond*, B.D. rector of the parish church of *Hetlegh*, *John Hylling*, vicar of the parish church of *Newton Valence*, and *Walter Gorfin*, inhabitant of the parish of *Selborne*, his sequestrators, to exact, collect, levy, and receive, all the profits and revenues of the said convent: he adds "ac ea sub "arcto, et tuto custodiatis, custodirive faciatis;" as they would answer it to the bishop at their peril.

In consequence of these proceedings prior *Berne*, on the last day of *February*, and the next year, produced a state of the revenues of the Priory, N°. 381, called "A paper con- "teyning the value of the manors and lands pertayning to "the Priory of *Selborne*. 4 *Edward* III. with a note of "charges yssuing out of it."

This is a curious document, and will appear in the Appendix. From circumstances in this paper it is plain that the sequestration produced good effects; for in it are to be found bills of repairs to a considerable amount.

By this evidence also it appears that there were at that juncture only four canons at the Priory;[u] and that these, and

[u] If bishop *Wykeham* was so disturbed (see *Notab. Visitatio)* to find the number of canons reduced from fourteen to eleven, what would he have said to have seen it diminished below one third of that number?

their four household servants, during this sequestration for their clothing, wages, and diet, were allowed *per ann.* xxx lib.; and that the annual pension of the lord prior, reside where he would, was to be x lib.

In the year 1468, prior *Berne*, probably wearied out by the dissensions and want of order that prevailed in the convent, resigned his priorship into the hands of the bishop.

Reg. Waynflete, tom. I. pars. 1ma, fol. 157.

March 28, A.D. 1468. "In quadam alta camera juxta "magnam portam manerii of the bishop of *Wynton de Wal-* "*tham* coram eodem rev. patre ibidem tunc sedente, *Peter* "*Berne*, prior of *Selborne*, ipsum prioratum in sacras, et "venerabiles manus of the bishop, viva voce libere resignavit: "and his resignation was admitted before two witnesses and "a notary-public. In consequence, *March* 29th, before the "bishop, in capella manerii sui ante dicti pro tribunali "sedente, comparuerunt fratres" *Peter Berne*, *Thomas London*, *William Wyndesor*, and *William Paynell*, alias *Stretford*, canons regular of the priory, "capitulum, et conventum "ejusdem ecclesie facientes; ac jus et voces in electione "futura prioris dicti prioratus solum et in solidum, ut asse- "ruerunt, habentes; and after the bishop had notified to them the vacancy of a prior, with his free license to elect, deliberated awhile, and then, by way of compromise, as they affirmed, unanimously transferred their right of election to the bishop before witnesses. In consequence of this the bishop, after full deliberation, proceeded, *April* 7th, "in "capella manerii sui de *Waltham*," to the election of a prior: "et fratrem *Johannem Morton*, priorem ecclesie conventualis "de *Reygate* dicti ordinis Su *Augustini Wynton.* dioc. in "priorem vice et nomine omnium et singulorum canonicorum "predictorum elegit, in ordine sacerdotali, et etate licita con- "stitutum, &c." And on the same day, in the same place, and before the same witnesses, *John Morton* resigned to the bishop the priorship of *Reygate viva voce.* The bishop then required his consent to his own election; "qui licet in parte "renitens tanti reverendi patris se confirmans," obeyed, and signified his consent *oraculo vive vocis.* Then was there a

mandate citing any one who would gainsay the said election to appear before the bishop or his commissary in his chapel at *Farnham* on the second day of *May* next. The dean of the deanery of *Aulton* then appeared before the chancellor, his commissary, and returned the citation or mandate dated *April* 22d, 1468, with signification, in writing, of his having published it as required, dated *Newton Valence*, *May* 1st, 1468. This certificate being read, the four canons of *Selborne* appeared and required the election to be confirmed; *et ex super abundanti* appointed *William Long* their proctor to solicit in their name that he might be canonically confirmed. *John Morton* also appeared, and proclamation was made; and no one appearing against him, the commissary pronounced all absentees contumacious, and precluded them from objecting at any other time; and, at the instance of *John Morton* and the proctor, confirmed the election by his decree, and directed his mandate to the rector of *Hedley* and the vicar of *Newton Valence* to install him in the usual form.

Thus, for the first time, was a person, a stranger to the convent of *Selborne*, and never canon of that monastery, elected prior; though the style of the petitions in former elections used to run thus,—"Vos - - - - rogamus quatinus "eligendum ex *nobis* unum *confratrem* de *gremio nostro*, — "licentiam vestram — nobis concedere dignemini."

LETTER XX.

Prior *Morton* dying in 1471, two canons, by themselves, proceeded to election, and chose a prior; but two more (one of them *Berne*) complaining of not being summoned, objected to the proceedings as informal; till at last the matter was compromised that the bishop should again, for that turn, nominate as he had before. But the circumstances of this election will be best explained by the following extract:

REG. WAYNFLETE, tom. II. pars 1ma, fol. 7.

Memorandum. A.D. 1471. August 22.

William Wyndesor, a canon-regular of the Priory of *Selborne*, having been elected prior on the death of brother *John*, appeared in person before the bishop in his chapel at *South Waltham*. He was attended on this occasion by *Thomas London* and *John Bromesgrove*, canons, who had elected him. *Peter Berne* and *William Stratfeld*, canons, also presented themselves at the same time, complaining that in this business they had been overlooked, and not summoned; and that therefore the validity of the election might with reason be called in question, and quarrels and dissensions might probably arise between the newly chosen prior and the parties thus neglected.

After some altercation and dispute they all came to an agreement with the new prior that what had been done should be rejected and annulled; and that they would again, for this turn, transfer to the bishop their power to elect, order, and provide them another prior, whom they promised unanimously to admit.

The bishop accepted of this offer before witnesses; and on *September* 27, in an inner chamber near the chapel abovementioned, after full deliberation, chose brother *Thomas Fairwise*, vicar of *Somborne*, a canon-regular of Saint *Augustine* in the Priory of *Bruscough*, in the diocese of *Coventry and Litchfield*, to be prior of *Selborne*. The form is nearly as above in the last election. The canons are again enumerated; *W. Wyndesor*, sub-prior, *P. Berne*, *T. London*, *W. Stratfeld*, *J. Bromesgrove*, who had formed the chapter, and had requested and obtained license to elect, but had unanimously conferred their power on the bishop. In consequence of this proceeding, the bishop taking the business upon himself, that the Priory might not suffer detriment for want of a governor, appoints the aforesaid *T. Fairwise* to be prior. A citation was ordered as above for gainsayers to appear *October* 4th, before the bishop or his commissaries at *South Waltham;* but none appearing, the commissaries admitted the said *Thomas*,

ordered him to be installed, and sent the usual letter to the convent to render him due obedience.

Thus did the bishop of *Winchester* a second time appoint a stranger to be prior of *Selborne*, instead of one chosen out of the chapter. For this seeming irregularity the visitor had no doubt good and sufficient reasons, as probably may appear hereafter.

LETTER XXI.

WHATEVER might have been the abilities and disposition of prior *Fairwise*, it could not have been in his power to have brought about any material reformation in the Priory of *Selborne*, because he departed this life in the month of *August* 1472, before he had presided one twelvemonth.

As soon as their governor was buried the chapter applied to their visitor for leave to choose a new prior, which being granted, after deliberating for a time, they proceeded to an election by a *scrutiny*. But as this mode of voting has not been described but by the mere form in the *Appendix*, an extract from the bishop's register, representing the manner more fully, may not be disagreeable to several readers.

WAYNFLETE REG. tom. II. pars 1ma, fol. 15.

"Reverendo &c. ac nostro patrono graciosissimo vestri hu-
"miles, et devote obedientie filii," &c.

To the right reverend Father in God, and our most gracious patron, we, your obedient and devoted sons, *William Wyndesor*, president of the chapter of the Priory of *Selborne*, and the convent of that place, do make known to your lordship, that our priorship being lately vacant by the death of *Thomas Fairwise*, our late prior, who died August 11th, 1472, having committed his body to decent sepulture, and having requested, according to custom, leave to elect another, and having obtained it under your seal, we, *William Wyndesor*, president of the convent, on the 29th of August, in our chapter-house assembled, and making a chapter, taking to us

in this business *Richard ap Jenkyn*, and *Galfrid Bryan*, chaplains, that our said priory might not by means of this vacancy incur harm or loss, unanimously agreed on *August* the last for the day of election; on which day, having first celebrated mass, "De sancto spiritu," at the high altar, and having called a chapter by tolling a bell about ten o' the clock, we, *William Wyndesor*, president, *Peter Berne*, *Thomas London*, and *William Stratfeld*, canons, who alone had voices, being the only canons, about ten o' the clock, first sung "Veni Creator," the letters and license being read in the presence of many persons there. Then *William Wyndesor*, in his own name, and that of all the canons, made solemn proclamation, enjoining all who had no right to vote to depart out of the chapter-house. When all were withdrawn except *Guyllery de Lacuna*, in decretis Baccalarius, and *Robert Peverell*, notary-public, and also the two chaplains, the first was requested to stay, that he might direct and inform us in the mode of election, the other, that he might record and attest the transactions; and the two last that they might be witnesses to them.

Then, having read the constitution of the general council "Quia propter," and the forms of elections contained in it being sufficiently explained to them by *De Lacuna*, as well in Latin as the vulgar tongue, and having deliberated in what mode to proceed in this election, they resolved on that of *scrutiny*. Three of the canons, *Wyndesor*, *Berne*, and *London*, were made *scrutators: Berne*, *London*, and *Stratfeld*, choosing *Wyndesor; Wyndesor*, *London*, and *Stratfeld*, choosing *Berne; Wyndesor*, *Berne*, and *Stratfeld*, choosing *London*.

They were empowered to take each other's vote, and then that of *Stratfeld;* "et ad inferiorem partem angularem" of the chapter-house, "juxta ostium ejusdem declinentes," with the other persons, (except *Stratfeld*, who staid behind) proceeded to voting, two swearing, and taking the voice of the third, in succession, privately. *Wyndesor* voted first: "Ego "credo *Petrum Berne* meliorem et utiliorem ad regimen istius "ecclesie, et in ipsum consentio, ac eum nomino," &c. *Berne* was next sworn, and in like manner nominated *Wyndesor;*

London nominated *Berne: Stratfeld* was then called and sworn, and nominated *Berne.*

"Quibus in scriptis redactis," by the notary-public, they returned to the upper part of the chapter-house, where by *Wyndesor* "sic puręcta fecerunt in communi," and then solemnly, in form written, declared the election of *Berne*: when all, "antedicto nostro electo excepto, approbantes et "ratificantes, cepimus decantare solemniter '*Te Deum Lau-*"*damus*,' et sic canentes dictum electum ad majus altare "ecclesie deduximus, ut apud nos est moris. Then *Wyndesor* "electionem clero et populo infra chorum dicte ecclesie con-"gregatis publicavit, et personam electi publice et persona-"liter ostendit." We then returned to the chapter-house, except our prior; and *Wyndesor* was appointed by the other two their proctor, to desire the assent of the elected, and to notify what had been done by the bishop; and to desire him to confirm the election, and do whatever else was necessary. Then their proctor, before the witnesses, required *Berne's* assent in the chapter-house: "qui quidem instanciis et pre-"cibus multiplicatis devictus," consented, "licet indignus "electus," in writing. They therefore requested the bishop's confirmation of their election "sic canonice et solemniter "celebrata," &c. &c. Sealed with their common seal, and subscribed and attested by the notary. Dat. in the chapter-house *September* 5th, 1472.

In consequence, *September* 11th, 1472, in the bishop's chapel at *Esher*, and before the bishop's commissary, appeared *W. Wyndesor*, and exhibited the above instrument, and a mandate from the bishop for the appearance of gainsayers of the election there on that day:—and no one appearing, the absentees were declared contumacious, and the election confirmed; and the vicar of *Aulton* was directed to induct and install the prior in the usual manner.

Thus did canon *Berne*, though advanced in years, reassume his abdicated priorship for the second time, to the no small satisfaction, as it may seem, of the bishop of *Winchester*, who professed, as will be shown, not long hence, an high opinion of his abilities and integrity.

LETTER XXII.

As prior *Berne*, when chosen in 1454, held his priorship only to 1468, and then made a voluntary resignation, wearied and disgusted, as we may conclude, by the disorder that prevailed in his convent; it is no matter of wonder that, when re-chosen in 1472, he should not long maintain his station; as old age was then coming fast upon him, and the increasing anarchy and misrule of that declining institution required unusual vigour and resolution to stem that torrent of profligacy which was hurrying it on to it's dissolution. We find, accordingly, that in 1478 he resigned his dignity again into the hands of the bishop.

WAYNFLETE REG. fol. 55.

Resignatio Prioris de Seleborne.

May 14, 1478. *Peter Berne* resigned the priorship. *May* 16 the bishop admitted his resignation "in manerio suo *de* "*Waltham*, and declared the priorship void; "et priorat. "solacio destitutum esse;" and granted his letters for proceeding to a new election: when all the religious, assembled in the chapter-house, did transfer their power under their seal to the bishop, by the following public instrument.

"In Dei nomine Amen," &c. A.D. 1478, Maii 19. In the chapter-house for the election of a prior for that day, on the free resignation of *Peter Berne*, having celebrated in the first place mass at the high altar "De spiritu sancto," and having called a chapter by tolling a bell, *ut moris est;* in the presence of a notary and witnesses appeared personally *Peter Berne*, *Thomas Ashford*, *Stephen Clydgrove*, and *John Ashton*, presbyters, and *Henry Canwood*,[x] in chapter assembled; and after

[x] Here we see that all the canons were changed in six years; and that there was quite a new chapter, *Berne* excepted, between 1472 and 1478; for, instead of *Wyndesor*, *London*, and *Stratfeld*, we find *Ashford*, *Clyd-*

singing the hymn '*Veni Creator Spiritus*,' "cum versiculo et "oratione '*Deus qui corda;*' declarataque licentia Fundatoris "et Patroni; futurum priorem eligendi concessa, et constitu- "tione consilii generalis que incipit '*Quia propter*' declaratis; "viisque per quas possent ad hanc electionem procedere," by the *decretorum doctorem*, whom the canons had taken to direct them—they all and every one "dixerunt et affirmarunt se "nolle ad aliquam viam procedere:"—but, for this turn only, renounced their right, and unanimously transferred their power to the bishop the ordinary of the place, promising to receive whom he should provide; and appointed a proctor to present the instrument to the bishop under their seal; and required their notary to draw it up in due form, &c. subscribed by the notary.

After the visitor had fully deliberated on the matter, he proceeded to the choice of a prior, and elected, by the following instrument, *John Sharp*, alias *Glastenbury*.

Fol. 56. PROVISIO PRIORIS per $\overline{\text{EPM}}$.

$\overline{Willmus}$, &c. to our beloved brother in CHRIST *John Sharp*, alias *Glastenbury*, Ecclesie conventualis de *Bruton*, of the order of St. *Austin*, in the diocese of *Bath* and *Wells*, canon-regular —*salutem*, &c. "De tue circumspectionis industria pluri- "mum confidentes, et virum providum et discretum, lite- "rarum scientia, et moribus merito commendandum," &c.—do appoint you prior—under our seal. "Dat. in manerio "nostro de *Suthwaltham*, *May* 20, 1478, et nostre Consec. 31."

Thus did the bishop, three times out of the four that he was at liberty to nominate, appoint a prior from a distance, a stranger to the place, to govern the convent of *Selborne*, hoping by this method to have broken the cabal, and to have interrupted that habit of mismanagement that had pervaded the society: but he acknowledges, in an evidence lying before us, that he never did succeed to his wishes with respect

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grove, *Ashton*, and *Canwood*, all new men, who were soon gone in their turn off the stage, and are heard of no more. For, in six years after, there seem to have been no canons at all.

to those late governors,—"quos tamen male se habuisse, et "inutiliter administrare, et administrasse usque ad presentia "tempora post debitam investigationem, &c. invenit." The only time that he appointed from among the canons, he made choice of *Peter Berne*, for whom he had conceived the greatest esteem and regard.

When prior *Berne* first relinquished his priorship, he returned again to his former condition of canon, in which he continued for some years: but when he was re-chosen, and had abdicated a second time, we find him in a forlorn state, and in danger of being reduced to beggary, had not the bishop of *Winchester* interposed in his favour, and with great humanity insisted on a provision for him for life. The reason for this difference seems to have been, that, in the first case, though in years, he might have been hale and capable of taking his share in the duty of the convent; in the second, he was broken with age, and no longer equal to the functions of a canon.

Impressed with this idea the bishop very benevolently interceded in his favour, and laid his injunctions on the new-elected prior in the following manner.

Fol. 56. "In Dei nomine Amen. Nos *Willmus*, &c. con-"siderantes *Petrum Berne*," late prior, "in administratione "spiritualium et temporalium prioratus laudabiliter vixisse et "rexisse; ipsumque senio et corporis debilitate confractum; "ne in opprobrium religionis *mendicari cogatur*;—eidem an-"nuam pensionem a Domino *Johanne Sharp*, alias *Glaston-"bury*, priore moderno," and his successors, and, from the Priory or church, to be payed every year during his life, "de voluntate et ex consensu expressis," of the said *John Sharp*, "sub ea que sequitur forma verborum—assignamus:"

1st. That the said prior and his successors, for the time being, *honeste exhibebunt* of the fruits and profits of the priorship, "eidem esculenta et poculenta," while he remained in the Priory "sub consimili portione eorundem prout conveni-"enter priori," for the time being, *ministrari contigerit;* and in like manner *uni famulo*, whom he should choose to wait on him, as to the *servientibus* of the prior.

Item. "Invenient seu exhibebunt eidem unam honestam "cameram" in the Priory, "cum focalibus necessariis seu "opportunis ad eundem."

Item. "We will, ordain, &c. to the said *P. Berne*, an annual "pension of ten marks, from the revenue of the Priory, to be "paid by the hands of the prior quarterly."

The bishop decrees farther, that *John Sharp*, and his successors, shall take an oath to observe this injunction, and that before their installation.

"Lecta et facta sunt hæc in quodam alto oratorio," belonging to the bishop at *Suthwaltham*, *May* 25, 1478, in the presence of *John Sharp*, who gave his assent, and then took the oath before witnesses, with the other oaths before the chancellor, who decreed he should be inducted and installed; as was done that same day.

How *John Sharp*, alias *Glastonbury*, acquitted himself in his priorship, and in what manner he made a vacancy, whether by resignation, or death, or whether he was removed by the visitor, does not appear; we only find that some time in the year 1484 there was no prior, and that the bishop nominated canon *Ashford* to fill the vacancy.

LETTER XXIII.

This *Thomas Ashford* was most undoubtedly the last prior of *Selborne;* and therefore here will be the proper place to say something concerning a list of the priors, and to endeavour to improve that already given by others.

At the end of bishop *Tanner's Notitia Monastica*, the folio edition, among *Brown Willis's Principals* of *Religious Houses* occur the names of eleven of the priors of *Selborne*, with dates. But this list is imperfect, and particularly at the beginning; for though the Priory was founded in 1232, yet it commences with *Nich. de Cantia*, elected in 1262; so that for the first thirty years no prior is mentioned; yet there must have been one or more. We were in hopes that the register of *Peter*

de Rupibus would have rectified this omission; but, when it was examined, no information of the sort was to be found. From the year 1410 the list is much corrected and improved; and the reader may depend on it's being thence forward very exact.

A List of the Priors of Selborne Priory, from Brown Willis's Principals *of* Religious Houses, *with additions within* [ ] *by the author.*

[*John* - - - was prior, *sine dat.*][y]
Nich. de Cantia el. - - - - 1262.
[*Peter* —— was prior in - - - 1271.]
[*Richard* —— was prior in - - - 1280.]
Will. Basing was prior in - - - 1299.
Walter de Insula el. in - - - - 1324.
[Some difficulties, and a devolution; but the election confirmed by bishop *Stratford.*]
John de Wintōn - - - - 1339.
Thomas Weston - - - - - 1377.
John Winchester, [*Wynchestre*] - - 1410.
[Elected by bishop *Beaufort* "per viam vel formam "simplicis compromissi.]
[*John Stype*, alias *Stepe*, in - - - 1411.]
Peter Bene [alias *Berne* or *Bernes*, appointed keeper, and, by lapse to bishop *Wayneflete*, prior] in 1454.
[He resigns in 1468.]
John Morton [prior of *Reygate*] in - - 1468.
[The canons by compromise transfer the power of election to the bishop.]
Will. Winsor [*Wyndesor*, prior for a few days] 1471.
[but removed on account of an irregular election.]
Thomas Farwill [*Fairwise*, vicar of *Somborne*] - 1471.
[by compromise again elected by the bishop.]

[y] See, in Letter XI. of these Antiquities, the reason why prior *John* - - -, who had transactions with the *Knights Templars*, is placed in the list before the year 1262.

[*Peter Berne*, re-elected by scrutiny in - 1472,]
[resigns again in 1478.]
John Sharper [*Sharp*] alias *Glastonbury* - 1478.
[Canon-reg, of *Bruton*, elected by the bishop by compromise.]
[*Thomas Ashford*, canon of *Selborne*, last prior elected by the bishop of *Winchester*, some time in the year 1484, and deposed at the dissolution.]

LETTER XXIV.

Bishop *Wayneflete's* efforts to continue the Priory still proved unsuccessful; and the convent, without any canons, and for some time without a prior, was tending swiftly to it's dissolution.

When *Sharp's*, alias *Glastonbury's*, priorship ended does not appear. The bishop says that he had been obliged to remove some priors for male-administration: but it is not well explained how that could be the case with any, unless with *Sharp;* because all the others, chosen during his episcopate, died in their office, *viz. Morton* and *Fairwise*; *Berne* only excepted, who relinquished twice voluntarily, and was moreover approved of by *Wayneflete* as a person of integrity. But the way to shew what ineffectual pains the bishop took, and what difficulties he met with, will be to quote the words of the libel of his proctor *Radulphus Langley*, who appeared for the bishop in the process of the impropriation of the Priory of *Selborne*. The extract is taken from an attested copy.

"*Item*—that the said bishop—dicto prioratui et personis "ejusdem pie compatiens, sollicitudines pastorales, labores, et "diligentias gravissimas quam plurimas, tam per se quam per "suos, pro reformatione premissorum impendebat: et ali- "quando illius loci prioribus, propter malam et inutilem ad- "ministrationem, et dispensationem bonorum predicti prioratus, "suis demeritis exigentibus, amotis; alios priores in quorum "circumspectione et diligentia confidebat, prefecit: quos "tamen male se habuisse ac inutiliter administrare, et admini-

"strasse, usque ad presentia tempora post debitam investiga-
"tionem, &c. invenit." So that he despaired with all his care—"statum ejusdem reparare vel restaurare: et considerata "temporis malicia, et preteritis timendo et conjecturando "futura, de aliqua bona et sancta religione ejusdem ordinis, "&c. juxta piam intentionem primevi fundatoris ibidem "habend. desperatur."

William Wainfleet, bishop of *Winchester*, founded his college of Saint *Mary Magdalene*, in the university of *Oxford*, in or about the year 1459; but the revenues proving insufficient for so large and noble an establishment, the college supplicated the founder to augment it's income by putting it in possession of the estates belonging to the Priory of *Selborne*, now become a deserted convent, without canons or prior. The president and fellows state the circumstances of their numerous institution and scanty provision, and the ruinous and perverted condition of the Priory. The bishop appoints commissaries to inquire into the state of the said monastery; and, if found expedient, to confirm the appropriation of it to the college, which soon after appoints attornies to take possession, *September* 24, 1484. But the way to give the reader a thorough insight respecting this transaction, will be to transcribe a farther proportion of the process of the impropriation from the beginning, which will lay open the manner of proceeding, and shew the consent of the parties.

IMPROPRIATIO SELBORNE, 1485.

"Universis sancte matris ecclesie filiis, &c. *Ricardus* Dei "gratia *prior* ecclesie conventualis de *Novo Loco*, &c.[z] ad uni-
"versitatem vestre notitie deducimus, &c. quod coram nobis

[z] *Ecclesia Conventualis* de *Novo Loco* was the monastery afterwards called the *New Minster*, or *Abbey* of *Hyde*, in the city of *Winchester*. Should any intelligent reader wonder to see that the *prior* of *Hyde Abbey* was commissary to the bishop of *Wintōn*, and should conclude that there was a mistake in titles, and that the *abbot* must have been here meant; he will be pleased to recollect that this person was the second in rank; for, "next under the abbot, in every abbey, was the prior." Pref. to Notit. Monast. p. xxix. Besides, abbots were great personages, and too high in station to submit to any office under the bishop.

"commissario predicto in ecclesia parochiali S^ti *Georgii de* "*Essher*, dict. *Winton.* dioc. 3°. die *Augusti*, A. D. 1485. "Indictione tertia pontificat. *Innocentii* 8^vi. ann. 1^mo. judi- "cialiter comparuit venerabilis vir *Jacobus Preston*, S. T. P. "infrascriptus, et exhibuit literas commissionis—quas quidem "per magistrum *Thomam Somercotes* notarium publicum, &c. "legi fecimus, tenorem sequentem in se continentes." The same as N° 103, but dated—"In manerio nostro *de Essher*, *Augusti* "1^mo, A.D. 1485, et nostre consec. anno 39." [N° 103 is re- peated in a book containing the like process in the preceding year by the same commissary, in the parish church of St *Andrew* the apostle, at *Farnham*, *Sept.* 6th, anno 1484.] "Post hnarum "literarum lecturam—dictus magister *Jacobus Preston*, quas- "dam procuratorias literas mag. *Richardi Mayewe* presidentis, "ut asseruit, *collegii beate Marie Magdalene*, &c. sigillo rotundo "communi, &c. in cera rubea impresso sigillatas realiter ex- "hibuit, &c. et pro eisdem dnis suis, &c. fecit se partem, ac "nobis supplicavit ut juxta formam in eisdem traditam pro- "cedere dignaremur, &c." After these proclamations no con- tradictor or abjector appearing—"ad instantem petitionem "ipsius mag. *Jac. Preston*, procuratoris, &c. procedendum fore "decrevimus vocatis jure vocandis; nec non mag. *Tho. Somer-* "*cotes*, &c. in actorum nostrorum scribam nominavimus. "Consequeuter et ibidem tunc comparuit magister *Michael* "*Clyff*, &c. et exhibuit in ea parte procuratorium suum," for the prior and convent of the cathedral of *Winton*, "et fecit se "partem pro eisdem.—Deinde comperuit coram nobis, &c. "honestus vir *Willmus Cowper*," proctor for the bishop as patron of the Priory of *Selborne*, and exhibited his "procura- "torium, &c." After these were read in the presence of *Clyff* and *Cowper*, "*Preston*, viva voce," petitioned the commissary to annex and appropriate the Priory of *Selborne* to the col- lege—"propter quod fructus, redditus, et proventus ejusdem "coll. adeo tenues sunt, et exiles, quod ad sustentationem "ejus, &c. non sufficiunt."—The commissary, "ad libellan- "dum et articulandum in scriptis"—adjourned the court to the 5th of *August*, then to be held again in the parish church of *Essher*.

W. Cowper being then absent, *Radulphus Langley* appeared for the bishop, and was admitted his proctor. *Preston* produced his libel or article in scriptis for the union, &c. "et "admitti petiit eundem cum effectu; cujus libelli tenor sequi- "tur.—In Dei nomine, Amen. Coram nobis venerabili in "Christo patre *Richardo*, priore, &c. de *Novo Loco*, &c. com- "missario, &c." Part of the college of Magd. dicit. allegat. and in his "scriptis proponit, &c."

"*Imprimis*—that said college consists of a president and "eighty scholars, besides sixteen choristers, thirteen servientes "inibi altissimo famulantibus, et in scientiis plerisque liberali- "bus, presertim in sacra theologia studentibus, nedum ad ip- "sorum presidentis et scholarium pro presenti et imposterum, "annuente deo, incorporandum in eodem relevamen; verum "etiam ad omnium et singulorum tam scholarium quam reli- "giosorum cujuscunque ordinis undequaque illuc confluere pro "salubri doctrina volentium utilitatem multiplicem ad incre- "menta virtutis fideique catholice stabilimentum. Ita videli- "cet quod omnes et singuli absque personarum seu nationum "delectu illuc accedere volentes, lecturas publicas et doctrinas "tam in grammatica loco ad collegium contiguo, ac philoso- "phiis morali et naturali, quam in sacra theologia in eodem "collegio perpetuis temporibus continuandas libere atque "gratis audire valeant et possint ad laudem gloriam et ho- "norem Dei, &c. extitit fundatum et stabilitum."

For the first *item* in this process see the beginning of this letter. Then follows *item* the second—"that the revenues of "the college non sufficiunt his diebus." "*Item*—that the "premisses are true, &c. et super eisdem laborarunt, et labo- "runt publica vox et fama. Unde facta fide petit pars eorun- "dem that the Priory be annexed to the college: ita quod "dicto prioratu vacante liceat iis ex tunc to take possession, "&c." This libel, with the express consent of the other proctors, we, the commissary admitted, and appointed the sixth of *August* for proctor *Preston* to prove the premisses.

Preston produced witnesses, *W. Gyfford*, S. T. P. *John Nele*, A. M. *John Chapman*, chaplain, and *Robert Baron*, literatus, who were admitted and sworn, when the court was

prorogued to the 6th of *August;* and the witnesses, on the same 5th of *August*, were examined by the commissary, "in "capella infra manerium de *Essher* situata, secrete et singil- "latim." Then follows the "literæ procuratoriæ:" first that of the college, appointing *Preston* and *Langport* their proctors, dated *August* 30th, 1484; then that of the prior and convent of the cathedral of *Wintōn*, appointing *David Husband* and *Michael Cleve*, dated *September* 4th, 1484: then that of the bishop, appointing *W. Gyfford*, *Radulphus Langley*, and *Will. Cowper*, dated *September* 3rd, 1484. Consec. 38°.—"Quo die adveniente in dicta ecclesia parochiali," appeared "coram nobis" *James Preston* to prove the contents of his libel, and exhibited some letters testimonial with the seal of the bishop, and these were admitted; and consequenter *Preston* produced two witnesses, viz. Dominum *Thoman Ashforde nuper priorem dicti prioratus*, et *Willm. Rabbys*, literatum, who were admitted and sworn, and examined as the others, by the commissary; "tunc & ibidem assistente scriba secrete "& singillatim;" and their depositions were read and made public, as follows:

Mr. *W. Gyfford*, S. T. P. aged 57, of the state of *Magd. Coll.* &c. &c. as before:

Mr. *John Nele*, aged 57, proves the articles also:

Robert Baron, aged 56:

Johannes Chapman, aged 35, also affirmed all the five articles:

Dompnus *Thomas Ashforde*, aged 72 years—"dicit 2^{dum} "3^{um} 4^{um} articulos in eodem libello contentos, concernentes "statum dicti prioratus de *Selebourne*, fuisse et esse veros."

W. Rabbys, ætat 40 ann. agrees with *Gyfford*, &c.

Then follows the letter from the bishop, "in subsidium pro- "bationis," abovementioned.—"*Willmus*, &c. salutem, &c. "noverint universitas vestra, quod licet nos prioratui de *Sele-* "*bourne*, &c. pie compacientes sollicitudines pastorales, labores, "diligentias quam plurimas per nos & commissarios nostros "pro reformatione status ejus impenderimus, justicia id "poscente; nihilominus tamen," &c. as in the article—to "desperatur," dated "in manerio nostro de *Essher*, *Aug.* 3d,

"1485, & consec. 39." Then, on the 6th of *August*, *Preston*, in the presence of the other proctors, required that they should be compelled to answer; when they all allowed the articles "fuisse & esse vera;" and the commissary at the request of *Preston*, concluded the business, and appointed *Monday*, *August* 8th, for giving his decree in the same church of *Essher;* and it was that day read, and contains a recapitulation, with the sentence of union, &c. witnessed and attested.

As soon as the president and fellows of *Magdalen college* had obtained the decision of the commissary in their favour, they proceeded to supplicate the *pope*, and to entreat his holiness that he would give his sanction to the sentence of union. Some difficulties were started at *Rome;* but they were surmounted by the college agent, as appears by his letters from that city. At length *pope Innocent* VIII. by a *bull*[a] bearing date the 8th day of *June*, in the year of our Lord 1486, and in the second year of his pontificate, confirmed what had been done, and suppressed the convent.

Thus fell the considerable and well-endowed Priory of *Selborne* after it had subsisted about two hundred and fifty-four years: about seventy-four years after the suppression of Priories alien by *Henry* V. and about fifty years before the general dissolution of monasteries by *Henry* VIII. The founder, it is probable, had fondly imagined that the sacredness of the institution, and the pious motives on which it was established, might have preserved it inviolate to the end of time—yet it fell,

> "To teach us that God attributes to *place*
> "No sanctity, if none be thither brought
> "By men, who there frequent, or therein dwell."
>
> *Milton's Paradise Lost.*

[a] There is nothing remarkable in this *bull* of *pope Innocent* except the statement of the annual revenue of the Priory of *Selborne*, which is therein estimated at 160 *flor. auri;* whereas bishop *Godwin* sets it at 337*l.* 15*s.* 6¼*d.* Now a *floren*, so named, says Camden, because made by *Florentines*, was a gold coin of king *Edward* III. in value 6*s.* whereof 160 is not one seventh part of 337*l.* 15*s.* 6¼*d.*

LETTER XXV.

WAINFLEET did not long enjoy the satisfaction arising from this new acquisition; but departed this life in a few months after he had effected the union of the Priory with his late founded college; and was succeeded in the see of *Winchester* by *Peter Courtney*, some time towards the end of the year 1486.

In the beginning of the following year the new bishop released the president and fellows of *Magdalen College* from all actions respecting the Priory of *Selborne;* and the prior and convent of Saint *Swithun*, as the chapter of *Winchester* cathedral, confirmed the release.[b]

N. 293. "Relaxatio *Petri* epi *Wintōn Ricardo Mayew*, "Presidenti omnium actionum occasione indempnitatis sibi "debite pro unione Prioratus de *Selborne* dicto collegio. "*Jan.* 2. 1487. et translat. anno 1°."

N. 374. "Relaxatio *prioris* et *conventus* S^ti *Swithini Wintōn* "confirmans relaxationem *Petri* ep. *Winton.*" 1487. *Jan.* 13.

Ashforde, the deposed prior, who had appeared as an evidence for the impropriation of the Priory at the age of seventy-two years, that he might not be destitute of a maintenance, was pensioned by the college to the day of his death; and was living on till 1490, as appears by his acquittances.

REG. A. ff. 46.

"Omnibus Christi fidelibus ad quos presens scriptum per- "venerit, *Richardus Mayew*, presidens, &c. et scolares, salutem "in Domino."

"Noveritis nos prefatos presidentem et scolares dedisse, "concessisse, et hoc presenti scripto confirmasse *Thome Ash-* "*forde, capellano*, quendam annualem redditum sex librarum "tresdecim solidorum et quatuor denariorum bone et legalis "monete Anglie—ad terminum vite prefati *Thome*"—to be

[b] The bishops of Winchester were patrons of the Priory.

paid from the possessions of the college in *Basingstoke*.—" In " cujus rei testimonium sigillum nostrum commune presenti- " bus apponimus. Dat. Oxon. in coll. nostro supra dicto " primo die mensis *Junii* anno regis *Ricardi* tertii secundo," viz. 1484. The college in their grant to *Ashforde*, style him only *capellanus;* but the annuitant very naturally, and with a becoming dignity, asserts his late title in his acquittances, and identifies himself by the addition of *nuper priorem*, or late prior.

As, according to the persuasion of the times, the depriving the founder and benefactors of the Priory of their masses and services would have been deemed the most impious of frauds, bishop *Wainfleet*, having by statute ordained four *obits* for himself to be celebrated in the chapel of *Magdalen College*, enjoined in one of them a special collect for the anniversary of *Peter de Rupibus*, with a particular prayer—" *Deus Indulgentiarum.*"

The college also sent *Nicholas Langrish*, who had been a chantry priest at *Selborne*, to celebrate mass for the souls of all that had been benefactors to the said Priory and college, and for all the faithful who had departed this life.

N. 356. *Thomas Knowles*, presidens, &c.—" damus et con- " cedimus *Nicholao Langrish* quandum capellaniam, vel sala- " rium, sive alio quocunque nomine censeatur, in prioratu " *quondam* de *Selborne* pro termino 40 annorum, si tam diu " vixerit. Ubi dictus mag^r. *Nicholaus* celebrabit pro anima- " bus omnium benefactorum dicti prioratus et coll. nostri, et " omnium fidelium defunctorum. Insuper nos, &c. concedi- " mus eidem ibidem celebranti in sustentationem suam quan- " dam annualem pensionem sive annuitatem octo librarum &c. " —in dicta capella dicti prioratus—concedimus duas cameras " contiguas ex parte boreali dicte capelle, cum *una coquina*, et " cum uno stabulo conveniente pro tribus equis, cum pomerio " eidem adjacente voc. le *Orcheyard*—Preterea 26s. 8d. per " ann. ad inveniendum unum clericum ad serviendum sibi ad " altare, et aliis negotiis necessariis ejus."—His wood to be granted him by the president on the progress.—He was not to absent himself beyond a certain time; and was to superintend

the coppices, wood, and hedges.——"Dat. 5^to^. die *Julii*. an^o^. *Hen*. VIII^vi^. 36^o^." [viz. 1546.]

Here we see the Priory in a new light, reduced as it were to the state of a *chantry*, without prior and without canons, and attended only by a priest, who was also a sort of bailiff or woodman, his assistant clerk, and his female cook. *Owen Oglethorpe*, president, and *Magd. Coll.* in the fourth year of *Edward* VI. viz. 1551, granted an annuity of ten pounds a year for life to *Nich. Langrish*, who, from the preamble, appears then to have been fellow of that society: but, being now superannuated for business, this pension is granted him for thirty years, if he should live so long. It is said of him—"cum jam sit provectioris etatis quam ut," &c.

Laurence Stubb, president of *Magd. Coll.* leased out the Priory lands to *John Sharp*, husbandman, for the term of twenty years, as early as the seventeenth year of *Henry* VIII. —viz. 1526: and it appears that *Henry Newlyn* had been in possession of a lease before, probably towards the end of the reign of *Henry* VII. *Sharp's* rent was vi^li^. *per ann.*—Regist. B. p. 43.

By an abstract from a lease lying before me, it appears that *Sharp* found a house, two barns, a stable, and a *duf*-house, [*dove*-house] built, and standing on the south side of the old Priory, and late in the occupation of *Newlyn*. In this abstract also are to be seen the names of all the fields, many of which continue the same to this day.[b] Of some of them I shall take notice, where any thing singular occurs.

And here first we meet with *Paradyss* [Paradise] *mede*. Every convent had its *Paradise;* which probably was an enclosed orchard, pleasantly laid out, and planted with fruit-

[b] It may not be amiss to mention here that various names of *tithings, farms, fields, woods*, &c. which appear on the ancient deeds, and evidences of several centuries standing, are still preserved in common use with little or no variation:—as *Norton, Southington, Durton, Achangre, Blackmore, Bradshot, Rood, Plestor*, &c. &c. At the same time it should be acknowledged that other places have entirely lost their original titles, as *le Buri* and *Trucstede* in this village; and *la Liega*, or *la Lyge*, which was the name of the original site of the Priory, &c.

trees. *Tylehouse* grove, so distinguished from having a *tiled house* near it.[c] *Butt-wood close;* here the servants of the Priory and the village-swains exercised themselves with their long bows, and shot at a mark against a butt, or bank.[d] *Cundyth* [conduit] *wood:* the engrosser of the lease not understanding this name has made a strange barbarous word of it. *Conduit-wood* was and is a steep, rough cow-pasture, lying above the Priory, at about a quarter of a mile to the south-west. In the side of this field there is a spring of water that never fails; at the head of which a cistern was built which communicated with leaden pipes that conveyed water to the monastery. When this reservoir was first constructed does not appear, we only know that it underwent a repair in the episcopate of bishop *Wainfleet*, about the year 1462.[e] Whether these pipes only conveyed the water to the Priory for common and culinary purposes, or contributed to any matters of ornament and elegance, we shall not pretend to say; nor when artists and mechanics first understood any thing of *hydraulics*, and that water confined in tubes would rise to it's original level. There is a person now living who had been employed formerly in digging for these pipes, and once discovered several yards, which they sold for old lead.

There was also a plot of ground called *Tan-house garden:* and "*Tannaria sua*," a *tan-yard of their own*, has been mentioned in Letter XVI. This circumstance I just take notice of, as an instance that monasteries had trades and occupations carried on within themselves.[f]

[c] Men at first heaped sods, or fern, or heath, on their roofs to keep off the inclemencies of the weather: and then by degrees laid straw or haum. The first refinements on roofing were shingles, which are very ancient. Tiles are a very late and imperfect covering, and were not much in use till the beginning of the sixteenth century. The first tiled house *at Nottingham* was in 1503.

[d] There is also a *Butt-close* just at the back of the village *.

* [Butt Close, now in the Park, next to Baker's hill.—T. B.]

[e] N. 381. "Clausure terre abbatie ecclesie parochiali de *Seleburne*, "ix*s.* iiii*d.* Reparacionibus domorum predicti prioratus iiii. *lib.* xi*s.* "*Aque conduct.* ibidem, xxiii*d.*"

[f] There is still a wood near the Priory called *Tanner's wood.*

Registr. B. pag. 112. Here we find a lease of the parsonage of *Selborne* to *Thomas Sylvester* and *Miles Arnold*, husbandmen—of the tythes of all manner of corne pertaining to the parsonage—with the offerings at the chapel of *Whaddon* belonging to the said parsonage. Dat. *June* 1. 27th. *Hen.* 8th. [viz. 1536.]

As the chapel of *Whaddon* has never been mentioned till now, and as it is not noticed by bishop *Tanner* in his *Notitia Monastica*, some more particular account of it will be proper in this place. *Whaddon* was a chapel of ease to the mother church of *Selborne*, and was situated in the tithing of *Oakhanger*, at about two miles distance from the village. The farm and field whereon it stood are still called *chapel-farm* and *field:*[g] but there are no remains or traces of the building itself, the very foundations having been destroyed before the memory of man. In a farm yard at *Oakhanger* we remember a large hollow stone of a close substance, which had been used as a *hog-trough*, but was then broken. This stone, tradition said, had been the baptismal font of *Whaddon chapel*. The chapel had been in a very ruinous state in old days; but was new built at the instance of bishop *Wainfleet*, about the year 1463, during the *first* priorship of *Berne*, in consequence of a sequestration issued forth by that visitor against the Priory on account of notorious and shameful dilapidations.[h]

The *Selborne* rivulet becomes of some breadth at *Oakhanger*, and, in very wet seasons, swells to a large flood. There is a bridge over the stream at this hamlet of considerable antiquity and peculiar shape, known by the name of *Tunbridge:* it consists of one single blunt *gothic* arch, so high and sharp as to render the passage not very convenient or

[g] This is a manor-farm, at present the property of *Lord Stawell;* and belonged probably in ancient times to *Jo.* de *Venur*, or *Venuz*, one of the first benefactors to the Priory.

[h] See Letter XIX. of these Antiquities.—"Summa total. solut. de "novis edificationibus, et reparacionibus per idem tempus, ut patet per "comput."

"Videlicet de nova edificat. *Capelle Marie* de *Wadden.* xiiii. *lib.* "vs viii*d.*—Reparacionibus ecclesie Prioratus, cancellor. et capellar. ec- "clesiarum et capellarum de *Selborne*, et *Estworhlam.*"—&c. &c.

safe. Here was also, we find, a bridge in very early times; for *Jacobus de Hochangre*, the first benefactor to the Priory of *Selborne*, held his estate at *Hochangre* by the service of providing the king one foot-soldier for forty days, and by building this bridge. "*Jacobus de Hochangre* tenet *Hochangre* in com. *Southampton per Serjantiam*,[i] inveniendi unum valectum in exercitu Domini regis [scil. *Henrici* III^tii.] per 40 dies; et ad faciendum *pontem* de *Hochangre:* et valet per ann. C. s."

Blount's Ancient Tenures, p. 84.

A *dove-house* was a constant appendage to a manerial dwelling: of this convenience more will be said hereafter.

A *corn-mill* was also esteemed a necessary appendage of every manor; and therefore was to be expected of course at the Priory of *Selborne*.

The prior had *secta molendini*, or *ad molendinum*:[k] a power of compelling his vassals to bring their corn to be ground at his mill, according to old custom. He had also, according to bishop *Tanner*, *secta molendini de Strete:* but the purport of *Strete*, we must confess, we do not understand. *Strete*, in old English, signifies a road or highway, as *Watling Strete*, &c. therefore the prior might have some mill on a high road. The Priory had only one mill originally at *Selborne;* but, by grants of lands, it came possessed of one at *Durton*, and one at *Oakhanger*, and probably some on it's other several manors.[l] The mill at the Priory was in use within the memory of man, and the ruins of the mill-house were standing within these thirty years: the pond and dam, and miller's dwelling, still remain. As the stream was apt to fail in very dry summers, the tenants found their situation very distressing, for want of water, and so were forced to abandon the spot. This inconvenience was probably never felt in old times, when the whole district was nothing but woodlands: and yet several centuries

[i] *Sargentia*, a sort of tenure of doing something for the king.

[k] "Servitium, quo feudatorii grana sua ad Domini molendinum, ibi "molenda perferre, ex consuetudine, astringuntur."

[l] *Thomas Knowles*, president, &c. ann. *Hen* 8vi. xxiii.° [viz. 1532.] demised to *J. Whitelie* their mills, &c. for twenty years. Rent xxiii*s.* iiii*d.* —*Accepted Frewen*, president, &c. ann. *Caroli* xv. [viz. 1640.] demised to *Jo. Hook* and *Elizabeth*, his wife, the said mills. Rent as above.

ago there seem to have been two or three mills between *Well-head* and the *Priory*. For the reason of this assertion, see Letter XXIX. to Mr. *Barrington*.

Occasional mention has been made of the many privileges and immunities enjoyed by the convent and it's priors; but a more particular state seems to be necessary. The author therefore thinks this the proper place, before he concludes these antiquities, to introduce all that has been collected by the judicious bishop *Tanner*, respecting the Priory and it's advantages, in his *Notitia Monastica*, a book now seldom seen, on account of the extravagance of it's price; and being but in few hands cannot be easily consulted.[m] He also adds a few of it's many privileges from other authorities:—the account is as follows. *Tanner*, page 166.

SELEBURNE.

A priory of *black canons*, founded by the often-mentioned *Peter de Rupibus*, bishop of *Winchester*, A.D. 1233, and dedicated to the blessed *Virgin Mary:* but was suppressed—and granted to *William Wainfleet*, bishop of *Winchester*, who made it part of the endowment of St. *Mary Magdalene College* in *Oxford*. The bishops of *Winchester* were patrons of it. [Pat. 17. *Edw.* II.] Vide in *Mon. Angl.* tom. II. p. 343. "Cartam fundationis ex ipso autographo in archivis *Coll.* "*Magd. Oxōn.* ubi etiam conservata sunt registra, cartæ, "rentalia et alia munimenta ad hunc prioratum spectantia.

"Extracta quædam e registro MSS. in Bibl. Bodl. *Dods-* "*worth*, vol. 89. f. 140."

"Cart. antiq. N. N. n. 33. P. P. n. 48. et 71. Q. Q. n. 40. "plac. coram justit. itin. [Southampton] 20 *Hen.* rot. 25. De "eccl. de *Basing*, & *Basingstoke*. Plac. de juratis apud *Winton*. "40 *Hen.* III. rot.—Prosecta molendini de *Strete*. Cart. 54. "*Hen.* III. m. 3. [*De mercatu, & feria apud Seleborne*, a mis-

[m] A few days after this was written a new edition of this valuable work was announced, in the month of *April* of the year 1787, as published by Mr. *Nasmith*.

" take.] Pat. 9. *Edw.* I. m.—Pat. 30. *Edw.* I. m.—Pat. 33.
" *Edw.* I. p. 1. m.—Pat. 35. *Edw.* I. m.—Pat. 1. *Edw.* II. p.
" 1. m. 9. Pat. 5. *Edw.* II. p. 1. m. 21. De terris in *Achanger.*
" Pat. 6. *Edw.* II. p. 1. m. 7. de eisdem. Brev. in Scacc. 6.
" *Edw.* II. Pasch. rot. 8. Pat. 17. *Edw.* II. p. 1. m.—Cart.
" 10. *Edw.* III. n. 24. Quod terræ suæ in *Seleburne, Ach-*
" *angre, Norton, Basings, Basingstoke,* and *Nately,* sint de
" afforestatæ, and pro aliis libertatibus. Pat. 12. *Edw.* III.
" p. 3. m. 3.—Pat. 13. *Edw.* III. p. 1. m.—Cart. 18. *Edw.*
" III. n. 24."

" N. N. 33. Rex concessit quod prior, et canonici de *Sele-*
" *burn* habeant per terras suas de *Seleburne, Achangre, Norton,*
" *Brompden, Basinges, Basingstoke,* & *Nately,* diversas liber-
" tates.

" P. P. 48. Quod prior de *Seleburne,* habeat terras suas
" quietas de vasto, et regardo."—*Extracts from Ayloffe's*
" *Calendars of Ancient Charters.*

" Placita de juratis & assis coram *Salōm* de *Roff,* & sociis
" suis justic. itiner. apud *Wynton* in comitatu *Sutht.*—anno
" regni R. *Edvardi* filii reg. *Henr.* octavo.—Et *Por de Sele-*
" *born* ht in *Selebr. fure. thurset. pillory, emendasse panis, &*
" *suis.*" [cerevisiæ.]—*Chapter-house, Westminster.*

" Placita Foreste apud *Wyntōn* in com. *Sutham.*—Anno
" reg. *Edwardi* octavo coram Rog. de *Clifford.*—&c. Justic.
" ad eadem placita audienda et tminand. assigtis.

" Carta Pror de *Seleburn,* H. Dei gra. rex. angl. &c. Con-
" cessim. prior. sce. *Marie* de *Seleburn.* et canonicis ibidem
" Deo servient. — — — q ipi et oes hoies sui in pdcis terris
" suis et tenementis manentes sint in ppetum quieti de sectis
" Swanemotor. et omnium alior. placitor. for. et de *espelta-*
" *mentis* canum. et de omnibus submonitoibz. placitis querelis
" et exaccoibus et occoibz. ad for. et for. et viridar. et eor.
" ministros ptinentibz."— *Chapter-house, Westminster.*

" Plita Forestarum in com. *Sutht.* apud *Suthamton* — —
" anno regni regis *Edwardi tcii* post conquestum quarto coram
" *Johe Mantvers.* &c. justic. itinand. &c."

De hiis qui clamant libtates infra Forestas in com. *Sutht.*

" Prior de *Selebourne* clamat esse quietus erga dnm regem

" de omnibus finibus et amerciamentis p tnsgr. et omnibus ex-
" accoibz ad Dom. regem vel hered. suos ptinent. pret. plita
" corone reg.

" Item clamat q[d] si aliquis hominum suorum de terris et
" ten. p. delicto suo vitam aut membrum debeat amittere vel
" fugiat, & judico stare noluerit vel aliud delictum fecit pro
" quo debeat catella sua amittere, ubicunq; justitia fieri debeat
" omnia catella illa sint ptci Prioris et successor. suor. Et
" liceat eidem priori et ballis suis ponere se in seisinam in
" hujusmodi catall. in casibus pdcis sine disturbacone ballivor.
" dni reg. quorumcunque.

" Item clam. quod licet aliqua libtatum p dnm regem con-
" cessar. pcessu temporis quocunq; casu contingente usi non
" fuerint nlominus postea eadm libtate uti possit. Et pdcus
" prior quesitus p. justic. quo waranto clamat omn. terr. et
" ten. sua in *Seleburne*, *Norton*, *Basynges*, *Basyngestoke*, &
" *Nattele*, que prior domus pdte huit & tenuit X[mo]. die *April*
" anno regni dni *Hen.* reg. pavi dni reg. nue XVIII. imppm
" esse quieta de vasto et regardo, et visu forestarior. et viri-
" darior. regardator. et omnium ministrorum foreste," &c. &c.

Chapter-house, Westminster.

LETTER XXVI.

THOUGH the evidences and documents of the Priory and parish of *Selborne* are now at an end, yet, as the author has still several things to say respecting the present state of that convent and it's *Grange*, and other matters, he does not see how he can acquit himself of the subject without trespassing again on the patience of the reader by adding one supplementary letter.

No sooner did the Priory (perhaps much out of repair at the time) become an appendage to the college, but it must at once have tended to swift decay. *Magdalen College* wanted now only two chambers for the chantry priest and his assistant; and therefore had no occasion for the hall, dormitory,

and other spacious apartments belonging to so large a foundation. The roofs neglected, would soon become the possession of daws and owls; and, being rotted and decayed by the weather, would fall in upon the floors; so that all parts must have hastened to speedy dilapidation and a scene of broken ruins. Three full centuries have now passed since the dissolution; a series of years that would craze the stoutest edifices. But, besides the slow hand of time, many circumstances have contributed to level this venerable structure with the ground; of which nothing now remains but one piece of a wall of about ten feet long, and as many feet high, which probably was part of an out-house. As early as the latter end of the reign of *Hen.* VII. we find that a farm-house and two barns were built to the south of the Priory, and undoubtedly out of it's materials. Avarice again has much contributed to the overthrow of this stately pile, as long as the tenants could make money of it's stones or timbers. Wantonness, no doubt, has had a share in the demolition; for boys love to destroy what men venerate and admire. A remarkable instance of this propensity the writer can give from his own knowledge. When a schoolboy, more than fifty years ago, he was eye-witness, perhaps a party concerned, in the undermining a portion of that fine old ruin at the north end of *Basingstoke* town, well known by the name of *Holy Ghost Chapel.* Very providentially the vast fragment, which these thoughtless little engineers endeavoured to sap, did not give way so soon as might have been expected; but it fell the night following, and with such violence that it shook the very ground, and, awakening the inhabitants of the neighbouring cottages, made them start up in their beds as if they had felt an earthquake. The motive for this dangerous attempt does not so readily appear: perhaps the more danger the more honour thought the boys; and the notion of doing some mischief gave a zest to the enterprize. As *Dryden* says upon an other occasion,

"It look'd so like a sin it pleas'd the more."

Had the Priory been only levelled to the surface of the

ground, the discerning eye of an antiquary might have ascertained it's *ichnography*, and some judicious hand might have developed it's dimensions. But, besides other ravages, the very foundations have been torn up for the repair of the highways: so that the site of this convent is now become a rough, rugged pasture-field, full of hillocks and pits, choaked with nettles, and dwarf-elder, and trampled by the feet of the ox and the heifer.

As the tenant at the Priory was lately digging among the foundations, for materials to mend the highways, his labourers discovered two large stones, with which the farmer was so pleased that he ordered them to be taken out whole. One of these proved to be a large *Doric* capital, worked in good taste; and the other a base of a pillar; both formed out of the soft freestone of this district. These ornaments, from their dimensions, seem to have belonged to massive columns; and shew that the church of this *convent* was a large and costly edifice. They were found in the space which has always been supposed to have contained the south transept of the Priory church. Some fragments of large pilasters were also found at the same time. The diameter of the capital was two feet three inches and an half; and of the column, where it had stood on the base, eighteen inches and three quarters.

Two years ago some labourers digging again among the ruins found a sort of rude thick vase or urn of soft stone, containing about two gallons in measure, on the verge of the brook, in the very spot which tradition has always pointed out as having been the site of the convent kitchen. This clumsy utensil,[n] whether intended for holy water, or whatever purpose, we were going to procure, but found that the labourers had just broken it in pieces, and carried it out on the highways.

The Priory of *Selborne* had possessed in this village a

[n] A judicious antiquary, who saw this vase, observed, that it possibly might have been a standard *measure* between the monastery and it's tenants. The priory we have mentioned claimed the assize of bread and beer in *Selborne* manor: and probably the adjustment of dry measures for grain, &c.

Grange, an usual appendage to manerial estates, where the fruits of their lands were stowed and laid up for use, at a time when men took the natural produce of their estates in kind. The mansion of this spot is still called the *Grange*, and is the manor-house of the convent possessions in this place. The author has conversed with very ancient people who remembered the old original *Grange;* but it has long given place to a modern farm-house. *Magdalen College* holds a court-leet and court-baron[o] in the great wheat-barn of the said *Grange*, annually, where the *President* * usually superintends, attended by the *bursar* and *steward* of the college.[p]

The following uncommon presentment at the court is not unworthy of notice. There is on the south side of the king's field, (a large common-field so called) a considerable tumulus, or hillock, now covered with thorns and bushes, and known by the name of *Kite's Hill*, which is presented, year by year, in court as not ploughed. Why this injunction is still kept up respecting this spot, which is surrounded on all sides by arable land, may be a question not easily solved, since the usage has long survived the knowledge of the intention thereof. We can only suppose that as the prior, besides *thurset* and *pillory*, had also *furcas*, a power of life and death, that he might have reserved this little eminence as the place of execution for delinquents. And there is the more reason to suppose so, since a spot just by is called *Gally* [Gallows] hill.

The lower part of the village next the *Grange*, in which is a pond and a stream, is well known by the name of *Gracious-street*, an appellation not at all understood. There is a lake in *Surrey*, near *Chobham*, called also *Gracious-pond:* and another, if we mistake not, near *Hedleigh*, in the county of *Hants*. This strange denomination we do not at all comprehend, and

[o] The time when this court is held is the mid-week between *Easter* and *Whitsuntide*.

* [The President has long ceased to attend, but the bursar and steward hold the court annually on a fixed day, the first Tuesday in May.—T. B.]

[p] *Owen Oglethorp*, president, &c. an. *Edw. Sexti*, primo [viz. 1547.] demised to *Robert Arden Selborne Grange* for twenty years. Rent vi^{li}.—*Index of Leases*.

conclude that it may be a corruption from some *Saxon* word, itself perhaps forgotten.

It has been observed already, that Bishop *Tanner* was mistaken when he refers to an evidence of *Dodsworth*, "*De mercatu et* FERIA *de Seleburne.*" *Selborne* never had a chartered fair; the present fair was set up since the year 1681, by a set of jovial fellows, who had found in an old almanack that there had been a fair here in former days on the first of *August;* and were desirous to revive so joyous a festival. Against this innovation the vicar set his face, and persisted in crying it down, as the probable occasion of much intemperance. However the fair prevailed; but was altered to the twenty-ninth of *May*, because the former day often interfered with wheat-harvest. On that day it still continues to be held, and is become an useful mart for cows and calves. Most of the lower house-keepers brew beer against this holiday, which is dutied by the exciseman; and their becoming victuallers for the day without a license is overlooked *.

Monasteries enjoyed all sorts of conveniences within themselves. Thus at the Priory, a low and moist situation, there were ponds and stews for their fish: at the same place also, and at the *Grange* in *Culver-croft*,[c] there were dove-houses; and on the hill opposite to the *Grange* the prior had a warren, as the names of *The Coney-crofts* and *Coney-croft Hanger* plainly testify.[d]

Nothing has been said as yet respecting the tenure or holding of the *Selborne* estates. *Temple* and *Norton* are manor farms and freehold; as is the manor of *Chapel* near *Oakhanger*, and also the estate at *Oakhanger-house* and *Black-moor*. The *Priory* and *Grange* are leasehold under *Magdalen-college*, for twenty-one years, renewable every seven: all the smaller estates in and round the village are copyhold of inheritance under the college, except the little remains of *Gurdon-manor*,

* [Not a vestige remains of the fair, although it was remembered by several old people, whom I have heard speak of it as an occasion of village festivity.—T. B.]

[c] *Culver*, as has been observed before, is *Saxon* for a pigeon.

[d] A warren was an usual appendage to a manor.

which had been of old leased out upon lives, but have been freed of late by their present lord, as fast as those lives have dropped.

Selborne seems to have derived much of it's prosperity from the near neighbourhood of the Priory. For monasteries were of considerable advantage to places where they had their sites and estates, by causing great resort, by procuring markets and fairs, by freeing them from the cruel oppression of forest-laws, and by letting their lands at easy rates. But, as soon as the convent was suppressed, the town which it had occasioned began to decline, and the market was less frequented; the rough and sequestered situation gave a check to resort, and the neglected roads rendered it less and less accessible.

That it had been a considerable place for size formerly appears from the largeness of the church, which much exceeds those of the neighbouring villages; by the ancient extent of the burying ground, which, from human bones occasionally dug up, is found to have been much encroached upon; by giving a name to the hundred; by the old foundations and ornamented stones, and tracery of windows that have been discovered on the north-east side of the village; and by the many vestiges of disused fish-ponds still to be seen around it. For ponds and stews were multiplied in the times of popery, that the affluent might enjoy some variety at their tables on fast days; therefore the more they abounded the better probably was the condition of the inhabitants.

More Particulars respecting the Old Family Tortoise, omitted in the Natural History.

Because we call this creature an abject reptile, we are too apt to undervalue his abilities, and depreciate his powers of instinct. Yet he is, as Mr. *Pope* says of his lord,

— — — "Much too wise to walk into a well:"

and has so much discernment as not to fall down an haha; but to stop and withdraw from the brink with the readiest precaution.

Though he loves warm weather he avoids the hot sun; because his thick shell, when once heated, would, as the poet says of solid armour—"scald with safety." He therefore spends the more sultry hours under the umbrella of a large cabbage-leaf, or amidst the waving forests of an asparagus-bed.

But as he avoids heat in the summer, so, in the decline of the year, he improves the faint autumnal beams, by getting within the reflection of a fruit-wall: and, though he never has read that planes inclining to the horizon receive a greater share of warmth,* he inclines his shell, by tilting it against the wall, to collect and admit every feeble ray.

Pitiable seems the condition of this poor embarrassed reptile: to be cased in a suit of ponderous armour, which he cannot lay aside; to be imprisoned, as it were, within his own shell, must preclude, we should suppose, all activity and disposition for enterprize. Yet there is a season of the year (usually the beginning of June) when his exertions are remarkable. He then walks on tiptoe, and is stirring by five in the morning; and, traversing the garden, examines every wicket and interstice in the fences, through which he will escape if possible: and often has eluded the care of the gardener, and wandered to some distant field. The motives that impel him to undertake these rambles seem to be of the amorous kind; his fancy then becomes intent on sexual attachments, which transport him beyond his usual gravity, and induce him to forget for a time his ordinary solemn deportment.

* Several years ago a book was written entitled "Fruit-walls improved "by inclining them to the horizon:" in which the author has shewn, by calculation, that a much greater number of the rays of the sun will fall on such walls than on those which are perpendicular.

APPENDIX,

No. I.

No. 6. (II.)

Carta Petri et conventus ecclesie Winton. pro fundatione prioratus de Seleburne, &c. dat. 1233.

Omnibus Christi fidelibus ad quos presens scriptum pervenerit. P. divina miseracione *Wintōn* ecclesie minister humilis salutem in Domino: Ex officio pastorali tenemur viros religiosos, qui pauperes spiritu esse pro Christo neglectis lucris temporalibus elegerunt; spirituali affectu diligere, fovere pariter et creare, eorumq; quieti sollicite providere; ut tanto uberiores fructus de continua in lege Dei meditatione percipiant, quanto a conturbationibus malignorum amplius fuerint ex patroni provisione et ecclesiastica defensione securi. Hinc est quod universitati vestre notificamus, nos divine caritatis instinctu, de assensu conventus ecclesie nostre *Wintōn*, fundasse domum religiosam, ordinis magni patris *Augustini*, in honore Dei et gloriose semper virginis ejusdem Dei genetricis Marie, apud *Seleburne*; ibidemque canonicos regulares instituisse: ad quorum sustentationem et hospitum et pauperum susceptionem, dedimus, concessimus, et presenti carta nostra

confirmavimus eisdem canonicis, totam terram quam habuimus de dono *Jacobi* de *Acangre:* et totam terram, cursum aque, boscum et pratum que habuimus de dono *Jacobi* de *Nortone;* et totam terram boscum et redditum que habuimus de dono domini *Henrici* regis *Anglie;* cum omnibus predictarum possessionum pertinentiis. Dedimus etiam et concessimus in proprios usus eisdem canonicis ecclesiam predicte ville de *Seleburne*, et ecclesias de *Basing*, et de *Basingestok*, cum omnibus earundem ecclesiarum capellis, libertatibus, et aliis pertinenciis; salva honesta et sufficienti sustentatione vicariorum in predictis ecclesiis ministrantium; quorum presentatio ad priorem predicte domus religiose de *Seleburne* et canonicos ejusdem loci in perpetuum pertinebit. Preterea possessiones et redditus, ecclesias sive decimas, quas in episcopatu nostro adempti sunt, vel in posterum, Deo dante, justis modis poterunt adipisci, sub nostra et *Wintōn* ecclesie protectione suscepimus, et episcopalis auctoritate officii confirmavimus; eadem auctoritate firmiter inhibentes, ne quis locum, in quo divino sunt officio mancipati, seu alias eorum possessiones, invadere vi vel fraude vel ingenio malo occupare audeat, vel etiam retinere, aut fratres conversos, servientes, vel homines eorum aliqua violentia perturbare, sive fugientes ad eos causa salutis sue conservande a septis domus sue violenter presumat extraere. Precipimus autem ut in eadem domo religiosa de *Seleburne* ordo canonicus, et regularis conversatio, secundum regulam magni patris *Augustini*, quam primi inhabitatores professi sunt, in perpetuum observetur; et ipsa domus religiosa a cujuslibet alterius domus religiose subjectione libera permaneat, et in omnibus absoluta; salva in omnibus episcopali auctoritate, et *Wintōn* ecclesie dignitate. Quod ut in posterum ratum permaneat et inconcussum, presenti scripto et sigilli nostri patrocinio duximus confirmandum. His testibus domino *Waltero* abbate de *Hyda*. Domino *Walters* Priore de sancto *Swithuno*, domino Stephano priore de Motesfonte, magistro *Alano* de *Stoke;* magistro Willō de sancte *Marie* ecclesia, tunc officiali nostro; *Luca* archidiacon' de surr'. magistro *Humfrido* de *Millers*, *Henrico* & *Hugone* capellanis, *Roberto* de *Clinchamp*, et *Petro Rossinol* clericis, et multis

aliis. Datum apud *Wlnes*[a] per manum P. de cancellis. In die sanctorum martirum *Fabiani* et *Sebastiani*. Anno Domi millesimo ducentesimo tricesimo tercio.

Seal, two saints and a bishop praying:
Legend: SV̄I. M. SITC. BONI. PCTR' PAVL' C PATRONI.

NUMBER II.

(III)

(Ni 108.)

Carta petens licentiam eligendi prelatum a Domino Episcopo Wintoniensi.

Defuncto prelato forma petendi licentiam eligendi.

Domino et patri in Christo reverendo domino & P. Dei gratia Wintoniensi episcopo, devoti sui filii supprior monasterii de S. Wintoniensis dioceseos salutem cum subjectione humili, reverentiam, et honorem. Monasterio nostro de S. in quo sub protectione vestra vivimus, sub habitu regulari, Prioris solacio destituto per mortem bone memorie, &c. quondam Prioris nostri, qui tali hora in aurora diem clausit extremum, vestre paternitati reverende et dominationi precipue istum nostrum et nostri monasterii casum flebilem cum merore nunciamus; ad vestre paternitatis refugium fratres nostros A. et C. canonicos destinantes, rogando et petendo devote quatenus nobis dignemini licenciam tribuere, ut monasterio predicto, Prioris regimine destituto, providere possimus, invocata Spiritus sancti gratia, per electionem canonicam de Priore. Actum in monasterio predicto 5 kalend. &c. anno Domini, &c. Valeat reverenda paternitas vestra semper in Domino.

[a] Probably *Wolvesey-house* near *Winchester*.

Forma licencie concesse.

P. Dei gratia Wintoniensis episcopus dilectis in Christo filiis suppriori et conventui talis loci salutem, gratiam, et benedictionem. Viduitatem monasterii vestri vacantis per mortem quondam R. Prioris vestri, cujus anime propicietur altissimus, paterno compacientes affectu, petitam a nobis eligendi licenciam vobis concedimus, ut patronus. Datum apud, &c. 3 kalend. Jul. anno consecrationis nostre tertio.

Forma decreti post electionem conficiendi.

In nomine Domini nostri Jhesu Christi, Amen. Monasterio beate Marie talis loci Winton. dioc. solacio destituto per mortem R. quondam Prioris ipsius; ac corpore ejus, prout moris est, ecclesiastice sepulture commendato; petita cum devocione licentia per fratres K. et . canonicos a ven: in Christo patre et domino domino P. Dei gratia Wintoniensi episcopo ejusdem monasterii patrono, eligendi priorem, et optenta; die dato, a toto capitulo ad eligendum vocati fuere evocandi, qui debuerunt, voluerunt, et potuerunt comode electioni prioris in monasterio predicto interesse: omnes canonici in capitulo ejusdem ecclesie convenerunt tali die, anno Dom. &c. ad tractandum de electione sui prioris facienda; qui, invocata Spiritus Sancti gratia, ad procedendum per formam scrutinii concencientes.

(N. 108.)

Modus procedendi ad electionem per formam scrutinii.

Omnibus in capitulo congregatis qui debent volunt et possunt comode interesse electioni eligendi sunt tres de capitulo[b] *non nostro obediencias ores*,[c] qui erunt scrutatores, et sedebunt in angulo capituli; et primo requirent vota sua propria, vide-

[b] Fratres canonicos. See *Forma decreti, &c.*

[c] Obedientiores sc. more regular. In virtute obedientiæ occurs in *Not. Visit.*

licet, duo requirent *tertium* et duo *alterum*, &c. dicendo sic, "Frater P. inquem concentis ad eligendum in prelatum nos-"trum?" quibus examinatis, et dictis eorum per vicem ex ipsis in scriptura redactis, vocabunt ad se omnes fratres singillatim, primo suppriorem, &c. Et unus de tribus examinatoribus scribet dictum cujuslibet. Celebrato scrutinio, *publicare db coram omnibus. Facta ptmodū concensum* collectione apparebit in quem pars major capituli et sanior concentit; quo viso, major pars dicet minori, "Cum major pars "et sanior capituli nostri concenciat in fratrem R. ipse est "eligendus, unde, si placet, ipsum communiter eligamus;" si vero omnes acquieverint, tunc ille qui majorem vocem habet in capitulo surgens dicet, "Ego frater R. pro toto capi-"tulo eligo fratrem R. nobis in pastorem;" et omnes dicent; "Placet nobis." Et incipient, "Te Deum laudamus." Si vero in unum concordare nequiverint, tunc hiis, qui majorem vocem habet inter illos qui majorem et saniorem partem capituli constituerint, dicet, "Ego pro me et illis qui mecum "concenciunt in fratrem R. eligo ipsum in," &c. Et illi dicent, "Placet nobis," &c.

Forma recte presentandi electum.

Reverendo in Christo patri et domino domino P. Dei gratia Winton. episcopo devoti sui filii frater R. Supprior conventualis beate Marie de tali loco, et ejusdem loci Conventus, cum subjectione humili, omnem obedienciam, reverenciam, et honorem. Cum conventualis ecclesia beate Marie talis loci, in qua sub protectione vestra vivimus sub habitu regulari, per mortem felicis recordationis R. quondam prioris nostri destituta ecclesia priore, qui 6^to^ kalend. Jul. in aurora anno Dom. &c. diem clausit extremum; de corpore ejus, prout moris est, ecclesiastice tradito sepulture; petita a vobis, tanquam a Domino, et vero ejusdem ecclesie patrono et pastore, licencia eligendi priorem et optenta; convenientibus omnibus canonicis predicte ecclesie in capitulo nostro, qui voluerunt debuerunt et potuerunt comode electioni nostre interesse, tali die anno Dom. supradicto, invocata Spiritus Sancti gratia,

fratrem R. de C. ejusdem ecclesie canonicum unanimi assensu et voluntate in priorem nostrum, ex puris votis singulorum, unanimiter eligimus. Quem reverende paternitati vestre et dominacioni precipue Priorem vero patrono nostro et pastore confirmandum, si placet, tenore presentium presentamus; *dignitatem* vestram humiliter et devote rogantes, quatenus, dicte electioni felicem prebere volentes assensum, eidem R. electo nostro *nunc* confirmabitis, et quod vestrum est pastorali *solicitudine* impendere dignemini. In cujus rei testimonium presentes litteras sigillo capituli nostri signatas paternitati vestre *transmittimus*. Valeat reverenda paternitas vestra semper in Domino. Datum tali loco die et anno supradictis. Omnes et singuli, per fratres A. B. et C. ejusdem ecclesie canonicos de voluntate tocius conventus ad inquirenda vota singulorum constitutos, secreto et singillatim requisiti; tandem publicato scrutinio et facta votorum colectione inventum est, majorem et seniorem partem tocius capituli dicte ecclesie in fratrem S. de B. dicte ecclesie canonicum unanimiter et concorditer concencisse; vel sic, quando inventum omnes canonicos dicte ecclesie preter duos in fratrem, A.D. quibus statim majori parti eligendum adquiescenter: frater k. supprior ecclesie memorate, juxta potestatem sibi a toto conventu traditam, vice consociorum suorum et sua ac tocius conventus, dictum fratrem S. de B. in priorem ejusdem ecclesie elegit, sub hac forma; "Ego frater supprior conven-
"tualis ecclesie beate Marie talis loci, potestate et auctoritate
"mihi a toto conventu dicte ecclesie tradita et commissa,
"quando, puplicato scrutinio et omnibus circa hoc rite per-
"actis, inveni majorem et partem seniorem tocius capituli
"nostri in fratrem S. de B. virum providum unanimiter
"concencisse, ipsum nobis et ecclesie nostre, vice tocius
"conventus, in priorem eligendum; et eidem electioni sub-
"scribo; cui electioni omnes canonici nostri concencerunt,
"et subscripserunt."—"Ego frater de C. presenti electioni
"concencio, et subscribo." Et sic de singulis electoribus; in *cujus rei* testimonium sigillum capituli nostri apponi fecimus ad presentes.

NUMBER III.

Visitatio Notabilis de Seleburne.

1387.

WILLMUS permissione divina Winton Episcopus dilectis filiis Priori et Conventui Prioratus de Selborne Ordinis S^ti^. Augustini, nostræ dioceseos, Salutem, gratiam, et ben. Suscepti regiminis cura pastoralis officii nos inducit invigilare solicite nostrorum remediis subjectorum, et eorum obviare periculis ac scandala removere; ut sic de vinea domini per cultoris providi sarculum vicia extirpentur inferantur virtutes, excessus debite corrigantur, et subditorum mores in nimium prolapsorum per apposicionem moderaminis congrui reformentur: Hanc nempe solicitudinem nostris humeris incumbentem assidua meditacione pensantes, ne sanguis vester de manibus nostris requiratur, ad vos et vestrum Prioratum supradictum, prout nostro incumbebat officio pastorali, nuper ex causa descendimus visitandi; et dum inter vos nostre visitacionis officium iteratis vicibus actualiter exercuimus, nonnulla reperimus que non solum obviant regularibus institutis, verum eciam que religioni vestre non congruunt, nec conveniunt honestati; ad que per nostrum antidotum debite reformanda opem et operam prout expedit et oportet apponimus, quas credimus efficaces, infra scripta siquidem precepta nostra pariter et decreta, sanctorum patrum constitucionibus editis et debite promulgatis canonicisque ac regularibus institutis fulcita, vobis nostri sigilli roborata munimine transmittimus, inter vos futuris temporibus efficaciter observanda, quatinus ad Dei laudem, divini cultus ac vestræ religionis augmentum, ipsis mediantibus, per viam salutis feliciter incedatis; mores et actus vestri abstrahantur a noxiis, et ad salutaria dirigantur.

No. I. In primis ut Domino Deo nostro, a quo cuncta bona

procedunt, et omnis religio immaculata sumpsit exordium, in Prioratu vestro predicto serviatur laudabiliter in divinis; Vobis, in virtute sancte obediencie ac sub majoris excommunicationis sententie pena, firmiter injungendo mandamus, quatinus hore canonice, tam de nocte quam de die, in choro a conventu cantentur; misse quoque de beata Maria et de die, necnon misse alie consuete horis et devocione debitis et cum moderatis pausacionibus celebrentur: nec liceat alicui de conventu ab horis et missis hujusmodi se absentare, aut, postquam incepte fuerint, ante complecionem earum ab ipsis recedere quovismodo; nisi ex causa necessaria vel legitima per priorem vel suppriorem aut alium presidentem loci, ut convenit, approbanda; in quo casu ipsorum omnium consciencias apud altissimum arctius oneramus; contrarium vero facientes in proximo tunc capitulo celebrando absq accepcione qualibet personarum regularem subeant disciplinam; acrius insuper puniendi si contumacia vel pertinacia delinquencium hoc exposcat; si quis vero post trinam correpcionem debite se non correxerit in premissis, pro singulis vicibus quibus contrarium fecerit ipsum singulis sextis feriis in pane et aqua dumtaxat precipimus jejunare.

No. II. Item quia in visitacione nostra predicta comperimus evidenter quod silencium, quasi in exilio positum, ad quod juxta regulam S^ti^ Augustini efficaciter estis astricti, locis et temporibus debitis inter vos minime observatur contra observancias regulares; Vobis omnibus et singulis firmiter injungendo mandamus, quatinus silencium, prout vos decet, regula supradicta, de cetero locis et temporibus *hujusmodi* observetis; a vanis et frivolis colloquiis, sicut decet, vos penitus abstinendo: illos vero, qui silencium *hujusmodi* in locis predictis non observaverint, animadversione condigna precipimus castigari; et, si quis tercio super hoc legitime convictus fuerit, preter regularem disciplinam, die, quo debite silencium non tenuerit, pane et servicia dumtaxat et legumine sit contentus.

No. III. Item quia nonnulli concanonici et confratres prioratus vestri predicti validi atq; sani et in sacerdocio constituti celebracionem missarum absq; causa legitima indebite ac

minus voluntarie multociens, ut dicitur, negligunt et omittunt; fundatorum aliorumq; benefactorum suorum animas, pro quibus sacrificia offerre tenentur, suffragiis nequiter defraudando; Vobis, ut supra, firmiter injungendo mandamus, quatinus vos omnes et singuli Prioratus predicti concanonici et confratres in sacerdocio constituti frequenter confiteamini confessoribus per Priorem deputandis; quos quidem confessores discretos et idoneos, prout numerus personarum dicti conventus exigit, per vos dominum Priorem predictum precipimus deputari; missasque, impedimento cessante legitimo, tam pro vivis quam pro defunctis, pro quibus orare tenemini, de cetero, quanto frequencius poteritis, celebretis devocius, sicut decet; impedimentum vero predictum cum contigerit Priori vel Suppriori Prioratus predicti per illud pacientes infra triduum declarari volumus et exponi, ac per eorum alterum prout justum fuerit approbari, vel eciam reprobari; in quo casu ipsorum omnium tam exponencium quam approbancium apud altissimum consciencias districtius oneramus; contrarium vero facientes, primo super hoc convicti, proxima quarta feria sequenti in pane, servisia, et legumine; secundo vero convicti feria quarta et sexta sequentibus modo consimili; tercio vero convicti dictis feriis extunc sequentibus in pane et aqua jejunent, quousque judicio prioris se correxerint in premissis; statuentes preterea quod Prior et Supprior Prioratus predicti contra *hujusmodi* delinquentes semel singulis mensibus diligenter inquirant, et quos culpabiles invenerint in premissis modo predicto studeant castigare.

No. IV. Item quia transitus communis secularium personarum utriusque sexus per claustrum Prioratus vestri in congruis temporibus minime exercetur, et potissime horis illis quibus fratres de conventu in contemplacione sancta studiis quoque ac lectionibus variis inibi occupantur; unde dissoluciones plurime provenerunt, et poterunt in futuro verisimiliter provenire, ac ipsorum fratrum quieti et religionis honestati plurimum derogatur: Vobis ut supra arcius injungendo mandamus, quatinus, cum secundum regulam sancti Augustini converçacio vestra debeat esse a secularibus *hujusmodi* separata, ad animarum ac' eciam rerum pericula, que

possent et solent ex concursu *hujusmodi* provenire, caucius evitanda; transitum communem predictum per prefatum claustrum de cetero fieri nullatenus permittatis, per quem vestra devocio et religionis honestas vulnerari vel eciam impediri valeant quovismodo, sub pena excommunicacionis majoris quam in contravenientes intendimus canonice fulminare: illum vero, ad quem ostiorum claustri custodia pertinet, si propter illius negligenciam sive culpam transitus *hujusmodi* sustineatur indebite, ut prefertur; pro singulis vicibus, quibus hoc factum fuerit, singulis quartis feriis in pane, servisia, et legumine dumtaxat jejunet; et, si nec sic se correxerit debite in hac parte, ab officio deponatur, ac alius, magis providus, loco suo celeriter subrogetur.

No. V. Item quia ostia ecclesie atq; claustri prioratus vestri predicti non servantur nec serantur temporibus debitis, nec modo debito, ut deceret; sed custodia eorundem agitur et omittitur multociens necgligenter; adeo quod *suspecte persone* et *alie inhoneste* per ecclesiam et claustrum *hujusmodi* incedunt frequenter in tenebris atq; umbris, temporibus eciam suspectis et illicitis, indecenter; unde dampna et scandala varia pluries provenerunt, et in posterum verisimiliter poterunt provenire; Vobis, ut supra, mandamus, firmiter injungentes, quatinus dicta ostia de cetero claudi faciatis, et clausa per ministros idoneos custodiri temporibus debitis, prout decet; vocis inhibentes expresse, ne ostia ecclesie vestre predicte, (illa videlicet que inter navem ipsius ecclesie et chorum ejusdem existunt) nec ostia claustri que ducunt ad extra, et per que introitus secularium in ipsum claustrum patere poterit, de mane, antequam prima incipiatur in choro; aut commestionis tempore; nec eciam de sero, postquam conventus collationem inceperit; nisi in causa utili vel necessaria per priorem vel suppriorem, ut convenit, approbanda, aperiantur de cetero quovis modo: ad que fideliter exequenda sacristam, qui pro tempore fuerit, ad cujus officium permissa pertinent sub pena amocionis ab officio suo arcius oneramus, acrius per nos puniendum prout nobis videbitur expedire.

No. VI. Item quia nonnulli concanonici et confratres prioratus vestri minus sapiunt in lectura, non intelligentes quid

legant, sed literas quasi prorsus ignorantes, dum psallunt vel legunt, accentum brevem pro longo ponunt pluries, et e contra; et per invia gradientes sanum scripturarum intellectum adulterantur multocieus, et pervertunt; fitque, ut dum scripturas sacras non sapiant, ad perpetrandum illicita proniores reddantur: Vobis Domino Priori in virtute obedientie, firmiter injungendo mandamus, quatinus, cum legere et non intelligere sit necgligere, noviciis et aliis minus sufficienter literatis idoneus de cetero deputetur magister, qui ipsos in cantu et aliis primitivis scienciis instruat diligenter juxta regularia instituta; quatinus, in eisdem perfectius eruditi, cecitatis squamis et ignorancie nebulis depositis, que legant intelligant et agnoscant, et ad contemplandum clarius misteria Scripturarum efficiantur, ut convenit, promciores.

No. VII. Item quia constituciones sive decretales Romanorum Pontificum vestrum ordinem concernentes, (ille videlicet de quibus in constitucionibus recolende memorie Domini Ottoboni, quondam sedis Apostolice in Anglia legati, fit mencio specialis) inter vos nullatenus recitantur, prout per constitucionęs ejusdem legati recitari mandantur; unde, dum decretales ipsas et contenta in eis penitus ignorantes, committitis multociens que prohibentur expressius per easdem in vestrarum periculum animarum: Vobis firmiter injungendo mandamus, quatinus, ne ignoranciam aliquam pretendere poteritis in hac parte, decretales predictas, prout in prefatis domini constitucionibus Ottoboni plenius recitantur, in quodam quaterno seu volumine absque more dispendio faciatis conscribi; ipsas bis singulis annis in vestro capitulo, juxta formam constitutionum dictarum, recitari clarius facientes, ad informacionem rudium et perfectionem eciam provectorum; adjicientes preterea, ut magistri noviciorum presencium et eciam futurorum ipsos in regula S^{ti}. Augustini diligenter instruant et informant, ipsam regulam eis vulgariter exponendo; quodque iidem novicii per frequentem recitacionem ejusdem illam sciant quasi cordetenus, sicut in dictis constitucionibus plenius continetur, per quam incedere poterint via recta et errorum tenebras caucius evitare: super execucione vero premissorum debite facienda dominum prio-

rem prioratus vestri predicti arcius oneramus quatinus ea que premisimus in hoc casu sub pena suspensionis ab ipsius officio per mensem diligencius exequatur.

No. VIII. Item quia canonici et confratres prioratus vestri predicti, ipsorum propriam voluntatem pocius quam utilitatem communem sectantes, non vestes necessarias, cum opus fuerit, sed certam et limitatam ac determinatam quantitatam peccunie, velut annuum redditum, pro vestibus *hujusmodi* percipiunt annuatim, contra regulam S^ti^. Augustini ac domini Ottoboni et aliorum sanctorum patrum canonica instituta; fitque, ut, dum effrenis illa religiosorum cupiditas, aliena specie colorata, vetita concupiscat, sancta religio, solutis constantie frenis, in luxum labentem ad latitudinis tramites que ducunt ad mortem, miserabiliter noscitur declinare: cui quidem morbo pestifero, ne putrescat et vermes generet corruptivos, mederi cicius cupientes nichil novi statuendo sed sanctorum patrum vestigiis inherendo, volumus ac eciam ordinamus, quod canonicis et confratribus memoratis presentibus et futuris de bonis et facultatibus communibus prioratus vestri predicti vestris usibus deputatis vestes et calciamenta, cum indiguerint, necessaria, juxta facultates predictas, et nullo modo peccuniam, pro eisdem, per eos qui super hiis ministrandi gerent officium de cetero ministrentur; vestes vero inveteratas et ineptas *hujusmodi* canonicorum camerario communi tradi volumus pauperibus erogandas juxta regulam S^ti^. Augustini, et alias canonicas sanctiones contrarium vero facientes, si camerarius fuerit, penam suspensionis ab officio ipsum incurrere volumus ipso facto; si vero alius canonicus de conventu existat, preter alias pmas regulares tam peccunia quam eciam indumentis novis careat illo anno.

No. IX. Item quia nonnulli canonici et confratres Prioratus vestri predicti opportunitate captata, extra septa Prioratus absque societate honesta, evagandi causa, nulla super hoc optenta licencia, se transferunt pluries indecenter; alii preterea provectiores certis officiis deputati ad maneria et loca alia officiis *hujusmodi* assignata equitant, quando placet, ibidem manentes pro eorum libito voluntatis, nullo canonico ipsis in socium assignato, contra ordinis decenciam et reli-

gionis eciam honestatem, constitucionesque Sanctorum Patrum editas in hac parte: Cum igitur religiosos extra eorum Prioratum sic vagari aut in eorum maneriis vel ecclesiis eis appropriatis soli manere expresse prohibeant canonica instituta; nos, premissa fieri de cetero prohibentes. Vobis firmiter injungendo mandamus, quatinus, cum aliquis Prioratus vestri cononicus vel confrater super vel pro negociis propriis vel eciam communibus exire contigerit, prius ad hoc a Priore vel Suppriore, si presentes in Prioratu fuerint, alioquin, ipsis absentibus, ab ipso qui protunc conventui preesse contigerit, licenciam habeat specialem; cui assignari volumus unum canonicum in socium, ne suspicio sinistra vel scandalum oriatur; qui, associata eisdem juxta qualitatem negocii cometiva honesta, in eundo et eciam redeundo gravitate servata modestius semper incedant, et expletis negociis ad Prioratum cicius revertantur, que regularibus conveniunt institutis devocius impleturi: contrarium vero facientes, absque remissione seu accepcione qualibet personarum, regularem subeant disciplinam; super quo presidencium conventus consciencias arcius oneramus, ipsosque nichilominus pro singulis vicibus, quibus excesserint in premissis, singulis sextis feriis in pane et aqua jejunent; et si officiarius fuerit, ipso facto, si aliquod canonicum non obsistat, ab ipsius officio sit suspensus.

No. X. Item quia comperimus evidenter, quod nonnulli canonici domus vestre, secundum carnem pocius quam secundum spiritum dissolute viventes, nulla causa racionabili subsistente, nudi jacent in lectis absque femoralibus et camisiis contra eorum observancias regulares; Vobis igitur firmiter injungendo mandamus, quatinus vos omnes et singuli canonici S^ti. Augustini regulam et in ea parte ordinis vestri canonica instituta de cetero efficaciter observetis: contrarium vero facientes singulis quartis feriis in pane, servisia, et legumine tantummodo sint contenti; si quis vero post trinam correptionem reus inventus fuerit in hac parte pro singulis vicibus singulis extunc feriis sextis in pane et aqua hunc precipimus jejunare; Priorem vero ac Suppriorem domus predicte sub pena suspensionis ab officiis eorundem arcius onerantes, quatinus super premissis sepius et diligenter inqui-

rant, et quos culpabiles invenerint eos penis predictis percellere non postponant.

No. XI. Item quia nonnullos canonicos et confratres Prioratus vestri predicti publicos reperimus venatores ac venacionibus *hujusmodi* spreto jugo regularis observancie, publice intendentes, ac canes tenentes venaticos, contra regularia instituta; unde dissolutiones quamplures, animarum pericula corporumque, ac rerum dispendia multociens oriuntur; nos volentes hoc frequens vicium a Prioratu predicto radicitus extirpare; Vobis omnibus et singulis tenore presencium inhibemus, vobis *nichilominus* firmiter injungentes, ne quisquam canonicorum Prioratus vestri predicti publicis venacionibus vel clamosis ex proposito intendere de cetero, vel eciam interesse; canesve venaticos per se vel alios tenere presumat, publice vel occulte, infra Prioratum vel extra, contra formam capituli, "NE IN AGRO DOMINICO," et alias canonicas sanctiones; per hoc autem Prioratus vestri predicti nec juri vel consuetudini, quod vel quam habere dinoscitur, in ea parte non intendimus in aliquo derogare: contrarium vero facientes preter disciplinas et penas alias canonicas pro singulis vicibus singulis quartis et sextis feriis in pane et servisia jejunando precipimus castigari.

No. XII. Item quia canonici Prioratus vestri predicti quibus officia forinseca et intrinseca committuntur, fingunt se, cum possent et deberent in choro divinis officiis interesse, in officiis *hujusmodi* sibi commissis multociens occupari, que possent ante vel post horas *hujusmodi* commode fieri, et eciam exerceri; propter quod cultus divinus minuitur, et alii claustrales nimium onerantur; Vobis in virtute sancte obedientie et sub pena excommunicacionis majoris firmiter injungendo mandamus, quatinus officiarii quicunque ecclesie vestre predicte in choro ejusdem divinis officiis a modo personaliter intersint, nisi ex causa legitima officiorum suorum et per presidentem conventus, qui pro tempore fuerit, approbanda, eos contigerit absentare; in quo casu de et super absencia sua legalitateque causarum pretensarum in hac parte ipsorum presidencium officiariorum consciencias apud altissimum districtius oneramus.

No. XIII. Item, quia juxta sapientis doctrinam ubi majus iminet periculum, ibi caucius est agendum, volumus et eciam ordinamus, quod duo canonici discreti et idonei de conventu Prioratus vestri predicti per ipsum conventum vel majorem partem ejusdem annis singulis de cetero eligantur, qui bis in anno ad maneria, tam Priori quam eciam pro restentacione conventus *hujusmodi* ceterisque officiariis assignata, personaliter se transferant et accedant, statum maneriorum ipsorum tam in edificiis quam eciam in stauro vivo vel mortuo plenarie supervisuri; quique super hiis que invenerunt in eisdem conventui supradicto relacionem fidelem in scriptis, ut convenit facere teneantur; ut, si mors alicujus officiarii vel casus illius fortuitus evenerit, de statu officii *hujusmodi* cujuscumque conventum non lateat memoratum; premissa vero vobis precipimus efficaciter observanda sub pena nostro arbitrio limitanda, vobis, si in hiis necgligentes fueritis vel remissi, acrius infligenda.

No. XIV. Item quia solitus et antiquus numerus canonicorum in Prioratu vestro predicto, quod dolenter referimus, adeo jam decrevit, ac eciam minuitur in presenti, quod ubi xiiii. canonici vel circiter in habitu et observanciis regularibus in dicto Prioratu solebant Altissimo devocius famulari, (quibus de bonis possessionibus ipsius Prioratus vestri communibus que possidetis in victu et vestitu juxta decenciam ordinis regularis honorifice ac debite fuerat ministratum) modo vero undecim canonici dumtaxat existunt et serviunt in eodem; quo fit, ut dum regis regum cultum attenuet cohabitancium paucitas, contra multiformis nequitie hostem minuatur exercitus bellatorum: Cum igitur juxta prefati domini Ottoboni constitutiones aliorumque sanctorum patrum canonica instituta, canonicorum antiquus numerus sit servandus, ac juxta sapientis doctrinam "In multitudine populi "sit dignitas regis, et in paucitate plebis ignominia principis "accendatur;" Vobis in virtute sancte obedientie ac sub pena majoris excomm. firmiter injungendo mandamus, quatinus, cum omni diligentia et celeritate debitis, de viris idoneis religioni dispositis, et honestis vobis absque more dispendio providere curetis; ipsos in ordinem vestrum regularem in

supplecionem majoris numeri requisiti, seu saltem illius numeri canonicorum ad quorum sustentacionem congruam, aliis oneribus vobis incumbentibus debite supportatis, vestre jam habite suppetunt facultates; super quibus vestram et cujuslibet vestrum conscienciam arcius oneramus; celerius admittentes, ad augmentum cultus divini et perfectionem majorem ordinis regularis, pro fundatoribus et benefactoribus vestris devocius, ut convenit, intercessuros.

No. XV. Item quia comperimus evidenter quod vos, domine Prior, cui ex debito vestri officii hoc incumbit, de proprietariis canonicis Prioratus vestri predicti, juxta constitutiones domini legati editas in hac parte, inquisicionem debitam hactenus non fecistis, ministerium vobis creditum in ea parte necgligentius omittendo; quo fit, ut ille pestifer hostis antiquus pastoris considerans continuatam desideam oves miseras et errantes, ipsius hostis nequissimi fraude deceptas in sitim avaricie prolabentes laqueo proprietatis seduxit, contra sanctorum patrum canonica instituta, in suarum grave periculum animarum; Vos igitur requirimus et monemus, vobisque in virtute obediencie firmiter injungendo mandamus, quatinus dicti legati constitutiones, ut convenit, imitantes super proprietariis *hujusmodi* saltem bis in anno inquisicionem faciatis de cetero diligentem; ipsos, si quos inveneritis, animadversione condigna juxta regularia instituta canonice punientes; si vero id adimplere necglexeritis, administracione vestra, ipso facto noveritis vos privatum, donec premissa fueritis diligenter executi, prout in constit. homini Ottoboni legati predicti plenius continetur.

No. XVI. Item, cum secundum constit. dicti legati et aliorum sanctorum patrum canonica instituta, abbates et priores, proprios abbates non habentes, nec non officiarii quicunque teneantur bis saltem singulis annis presente toto conventu vel aliquibus ex senioribus ad hoc a capitulo deputatis de statu Prioratus et de administracione sua plenariam reddere rationem, quod tum in Prioratu vestro predicto invenimus hactenus non servatum, unde plura secuntur incommoda, et vestre utilitati communi plurimum derogatur; Vobis in virtute obediencie firmiter injungendo mandamus, quatinus pre-

fati domini legati, domini videlicet Ottoboni, necnon bone memorie domini Stephani quondam Archiepiscopi Cant. constit. editas in hac parte, faciatis inter vos de cetero firmiter observari, sub pena suspensionis officiariorum ipsorum ab eorum *hujusmodi* officiis, dictique Prioris ab administracione sua, quam, si premissa necglexerint observare, ipso facto, donec id perfecerint, se noverint incurrisse, prout in dictis constit. dicti Ottoboni plenius continetur.

No. XVII. Item quia in Prioratu vestro predicto et ecclesia ejusdem ac in nonnullis domibus, edificiis, muris et clausuris ecclesie vestre prelibate, necnon maneriorum ipsius Prioratus certis diversis officiis deputatorum, quas et quæ precessorum et predecessorum vestrorum industria sumptuose construxerat, quamplures enormes et notabiles sunt defectus, reparatione necessaria indigentes; unde statum ipsius Prioratus ac maneriorum predictorum deformitas occupat, et multa incommoda insecuntur; Vobis igitur in virtute obedientie firmiter injungendo mandamus, quatinus defectus *hujusmodi*, pro vestra utilitate communi absque dilacionis incommodo, quamcicius poteritis, juxta vires reparari debite faciatis; alioquin Priorem ceterosque officiarios quoscumque, qui in premissis necgligentes fuerint vel remissi, nisi infra sex menses post notificacionem presencium sibi factam ad debitam reparationem defectuum *hujusmodi* se preparaverint, cum effectu, ipso facto ab officiis suis *hujusmodi* sint suspensi.

No. XVIII. Item, quia per vendiciones et concessiones liberacionum et *corrodiorum* hactenus per vos factas, reperimus dictum Prioratum multipliciter fore gravatum, adeo quod ea, que ad divini cultus augmentum, sustentacionem pauperum, et infirmorum, pia devocio fidelium erogavit, mercenariorum ceca cupiditas jam absorbet; fitque, ut dum bona ejusdem Prioratus in alios usus quam debitos, ne dixerimus in prophanos, nepharie convertantur, altissimo famulancium in eadem numerus minuitur, pauperes et infirmi suis porcionibus, ac ipsa ecclesia divinis obsequiis nequiter defraudantur, contra intencionem piissimam fundatorum, in vestrarum periculum animarum; Indempnitati igitur ipsius ecclesie vestre in hac parte debite providere, dictum quoque tam frequens incommo-

dum ab eadem radicitus extirpare volentes, bone memorie domini Ottoboni legati predicti aliorumque sanctorum patrum vestigiis inherentes; Vobis tenore presencium districtius inhibemus, eciam sub pena excomm. majoris, ne *corrodia*, liberaciones, aut pensiones personis aliquibus imperpetuum vel ad tempus vendatis de cetero, vel aliqualiter concedatis, absque nostro consensu et licencia speciali; presertim cum vendiciones *hujusmodi*, que species alienacionis existunt, Prioratus vestri predicti detrimentum procurent et enormem eciam generat lesionem; si quis vero contra hanc nostram inhibicionem aliquid attemptare presumpserit, nisi id quod sic presumpserit revocaverit, ab officio sit suspensus prout in constit. domini Ottoboni clarius continetur.

No. XIX. Item quia quedam certe perpetue cantarie pro fundatoribus et aliis benefactoribus vestris tam in genere quam in specie antiquitus constitute per diversos presbyteros in Prioratu vestro predicto debite celebrande, pro quibus plura donaria recipistis a multis retro actis temporibus, ac eciam de presenti, ut asseritur, sunt substracte, contra piam intencionem ac ordinacionem eciam fundatorum, in vestrarum grave periculum animarum; Vobis igitur, in virtute sancte obedientie ac sub majoris excom. sentencie pena, firmiter injungendo mandamus, quatinas cantarias predictas juxta formam institucionum et ordinacionum earum faciatis de cetero debite celebrari, ac eisdem congrue deserviri, si redditus et proventus ad *hujusmodi* cantarias antiquitus assignati ad hoc sufficiant hiis diebus, alioquin prout redditus et proventus earum, aliis omnibus eisdem imncumbentibus debite supportatis, sufficiunt de presenti, dolo et fraude cessantibus quibuscunque; super quo vestram conscienciam arcius oneramus, a modo deserviri debite faciatis.

No. XX. Item vobis et omnibus et singulis in virtute sancte obediencie ac sub majoris excom. sentencie pena firmiter injungendo mandamus, quatinus elemosinas in Prioratu vestro predicto antiquitus fieri consuetas, et eas ad quas tenemini ex ordinacione antiqua pro animabus fundatorum et aliorum benefactorum vestrorum juxta facultates vestras super quibus vestras consciencias arctius oneramus, prout divinam effugere

volueritis ulcionem distribui de cetero faciatis; precipientes preterea quod fragmenta seu reliquiæ tam de aula Prioris quam eciam de refectorio proveniencià, absque diminucione qualibet, per elimosinarium vel ipsius locum tenentem integre colligantur, pauperibus fideliter eroganda; alioquin, si elimosinarius *hujusmodi* remissus vel negligens fuerit in premissis, penam suspensionis ab officio se noverit incursurum.

No. XXI. Item quia debilibus et infirmis humanitatis preberi subsidium jubet caritas, et pietas intelpellat; Vobis domino Priori ceteris obedienciariis Prioratus vestri predicti, quorum interest in hac parte in virtute sancte obediencie firmiter injungendo mandamus, quatinus confratribus vestris debilibus et infirmis, ipsorum infirmitate durante, in esculentis et poculentis eorum infirmitatibus congruentibus, necnon in medicinis et aliis juxta infirmitatis *hujusmodi* qualitatem et Prioratus facultates, de bonis vestris communibus et sicut antiquitus fieri consueverat de cetero faciatis debite procurari, sub pena suspensionis ab officiis vestris si circa premissa necgligentes fueritis vel remissi, ipso facto, quousq; id quod necgligenter omissum fuerit perfeceritis, incurrenda; prout in constit. domini Ottoboni plenius continetur; statuentes preterea quod camere infirmaria vestra, cum opus fuerit, infirmis canonicis sint communes, ne, quod absit, aliquis sibi retineat in eisdem vel vendicet proprietatem, contra sancti Augustini regulam et constit. sanctorum patrum editas in hac parte.

No. XXII. Item cum necgligencia sive remissio in personis precedencium sit plurimum detestanda, facilitas quoq; venie incentivum prebeat delinquendi; Vobis domino Priori, Suppriori, aliisq; conventus predicti presidentibus quibuscumq; presentibus et futuris, in virtute sancte obediencie firmiter injungendo mandamus, Quatinus, cum correctiones in personis ipsius conventus imineant faciende, ipsas, prout ad vos pertinet, absq; acceptione qualibet personarum juxta quantitatem delictorum et personarum qualitatem vestrasq; observancias regulares cum maturitate debita, et discretione previa, facere studeatis; alioquin vos suppriorem ceterosq; presidentes predictos, si necgligentes vel remissi aut culpabiles fueritis in premissis, canonica nostra monicione premissa penam suspen-

cionis ab officiis vestris extunc incurrere volumus ipso facto, donec *hujusmodi* negligenciam, remissionem, culpam, vel desidiam a vobis excusseritis in hac parte; pena prefacto domino Priori in hoc casu, ut convenit, infligenda nobis specialiter reservata.

No. XXIII. Item cum consuetudines laudabiles Prioratus cujuscumq; ordinacionesque ac statuta que usus longevi temporis approbavit merito sint servandæ; Vobis domino Priori ac singulis officiariis Prioratus vestri predicti presentibus et futuris in virtute sancte obediencie, et sub penis infra scriptis, firmiter injungendo mandamus; Quatinus pitancias et alias distribuciones quascunque, in quibuscunque rebus consistant et quocunque nomine censeantur, in obitibus, anniversariis festivitatibus, aut aliis diebus, conventui, aut ab uno officio alii officio ex ordinacione antiqua debitas et consuetas, in canonicum aliquod non obsistat a modo faciatis persolvi, sub pena porcionis duple, cujus partem unam conventui predicto, alteram vero partem certis piis usibus nostro arbitrio limitandis debite persolvendam specialiter reservamus.

No. XXIV. Item cum vendiciones boscorum, firme maneriorum vel eciam ecclesiarum, aut alia domus vestre ardua negocia imineant facienda, illa, sine tractatu ac deliberacione provida cum conventu predicto ac eorum consensu expresso vel majoris et sanioris partis ejusdem, de cetero fiere prohibemus; aliter autem *hujusmodi* negocia ardua facta nullius existunt firmitatis; et nichilominus Priorem aliosque officiarios quoscumq; qui contra presentem prohibitionem nostram quicquam attemptaverint in premissis, penam suspensionis ab officiis eorundem ipso facto se noverint incursuros, cum ex *hujusmodi* factis privatis ecclesiis dispendia multociens provenerunt; illa quoque que omnes tangunt ab omnibus merito debeant approbari.

No. XXV. Item volumus ac eciam ordinamus, quod sigillum vestrum commune sub quinque clavibus ad minus de cetero custodiatur; quarum unam penes Priorem, secundam penes suppriorem, terciam penes precentorem, et reliquas duas claves penes confratres alios per conventum ad hoc nominandos decrevimus remanere, per ipsos fideliter custodiendas; inhi-

bentes preterea sub pena excom. majoris ne quicquam cum dicto sigillo communi a modo sigelletur, nisi litera *hujusmodi* sigellanda primitus legatur, inspiciatur, et eciam intelligatur a majore et saniore parte tocius conventus, et ad ipsam sigillandam communis vester prebeatur consensus, cum ex facto *hujusmodi* plura possunt dispendia verisimiliter provenire; ad hoc vobis omnibus et singulis tenore presencium inhibemus, ne *compatres alicujus pueri* de cetero fieri presumatis, nostra super hoc licencia non obtenta, cum ex *hujusmodi* cognacionibus religiosis domibus dispendia sepius invenire noscuntur; contrarium vero facientes, preter disciplinas alias regulares, singulis sextis feriis per mensem proxime tunc sequentem in pane et aqua jejunando precipimus castigari.

No. XXVI. Item quia nonnulli canonici domus vestre predicte, freno abjecto observancie regularis, *caligis* de *Burneto* et sotula*rium* basp. in *ocrearum* loco ad modum sotularium uti publice non verentur, contra consuetudinem antiquam laudabilem ordinis supradicti, in perniciosum exemplum et scandalum plurimorum; nos igitur honestatem dicti ordinis observare volentes, Vobis domino Priori in virtute sancte obediencie firmiter injungendo mandamus, Quatinus quoscumq; vestros canonicos et confratres ad utendun de cetero ocreis seu botis secundum antiquas vestri ordinis observancias regulares per quascumq; censuras ecclesiasticas, et, si opus fuerit, per incarceracionis penam canonice compellatis, sub pena suspensionis ab officio vestro predicto.

No. XXVII. Item quia tres vel due partes conventus domus vestre non comedunt cotidie in refectorio, prout constitutiones sanctorum patrum sanxerunt providè in hac parte; Vobis dicti Prioratus conventui firmiter injungendo mandamus, Quatinus tres vel saltem due partes vestrum cotidie in refectorio hora prandii de cetero comedant et remaneant debite, sicut decet; vobis arcius injungentes, quod nullus vestrum in mansiunculis aut locis aliis privatis eciam cum hospitibus suis regularibus vel secularibus vel confratibus suis comedat; hostilaria cum hospitibus, refectorio in communi misericordia, causa recreacionis, et aula Prioris dumtaxat exceptis; hanc

tamen Prior apponat providenciam diligentem, ut, sine personarum accepcione, nunc hos nunc illos ad refectionem convocet, quos magis noverit indigere; super execucione vero debita premissorum Priorem ac alios conventui presidentes sub pena suspensionis ab eorum officiis arctius oneramus.

No. XXVIII. Item, cum secundum sanctorum patrum constituciones, juniores canonici a suis prelatis vivendi normam habeant assumere, ac iidem prelati super sua conversacione testium copiam debeant obtinere; Vobis domino Priori in virtute obedientie districte precipiendo mandamus, Quatinus capellanum vestrum canonicum singulis de cetero mutetis annis, juxta constitutiones sanctorum patrum editas in hac parte; ut sic, qui vobiscum fuerint in officio predicto, per doctrine laudabilis exercicium plus valeant in religione proficere, ac eos innocencie testes, si vobis, quod absit, crimen aliquod seu scandalum per aliquorum invidiam imponatur, prompte poteritis invocare.

No. XXIX. Item, cum communis exquisitus ornatus presertim in religiosis personis a jure sit penitus interdictus; Vobis tenore presencium inhibemus, ne quivis vestram de cetero in suis vestibus *furruris* preciosis aut *manicis* nodulatis *zonisve* sericis auri vel argenti ornatum habentibus utatur de cetero quovis modo, cum abusus *hujusmodi* ad pompam et ostentacionem ac scandalum ordinis manifeste tendere dinoscatur.

No. XXX. Item, quia singula officia sunt singulis committenda personis; Vobis in virtute obediencie et sub excom. sententie pena firmiter injungendo mandamus, ut officia singula vestri Prioratus, que per canonicos officiarios gubernari solebant, per officiarios *hujusmodi*, per vos communiter vel divisim juxta Prioratus predicti morem solitum eligendos, quibus ipsa officia, ut olim, committi volumus exercenda, singulariter de cetero gubernentur.

XXXI. Item, cum plus timeri soleat id quod specialiter injungitur quam quod generaliter imperatur; Vobis omnibus et singulis inhibemus, ne aliquis vestrum, ad curam animarum non admissus, clericis aut laicis sacramentum unctionis extreme vel euchauristia ministrare, matrimonia ve solempnizare, non habita super hiis parochialis presbyteri licencia, quomodo-

libet presumatis, sub pena excom. majoris sententie in hac parte a canone fulminate.

XXXII. Item quia comperimus in nostris visitacionibus supradictis vasa et pallas altaris, necnon et vestimenta sacra ecclesie vestre, atque corporalia, tam immunda relinqui, quod interdum aliquibus sunt horrori; ut igitur honor debitus divinis impendatur; Vobis firmiter injungendo mandamus, Quatinus vasa, corporalia, pallas, et vestimenta predicta, ac cetera ecclesie ornamenta munda nitida et honesta decetero conserventur hoc quoq; insuper injungentes, ut in ecclesiâ vestra celebrantibus *vinum bonum*, purum, et incorruptum ad sacramentum altaris conficiendum per eum qui super hoc gerit officium, et non *corruptum*, et *acetosum*, prout fieri consueverit, imposterum ministretur; nimis enim videtur absurdum in sacris sordes necgligere, que dedecerent in prophanis.

XXXIII. Item licet sanctorum reliquias, vasa, aut vestimenta sacra seu libros ecclesie in *vadem dari*, aut pignori obligari canonica prohibeant instituta, a vobis tamen in dictis visitacionibus comperimus contrarium esse factum; Vobis igitur domino Priori, tenore presencium, firmiter injungendo mandamus, quatinus ab *hujusmodi* impignoracionibus extra casus a jure permissos vos decetero penitus abstinentes, *hujusmodi* pignori obligata curetis recolligere, et ea ecclesie vestre restituere, absq; more dispendio, sicut decet; statuentes preterea ut omnes carte ac munimenta quecumq; statum bona et possessiones domus vestre qualitercumq; contingentes, sub tribus serruris et clavibus remaneant, futuris temporibus fideliter conservande.

XXXIV. Item cum religiosi de bono in melius continue debeant proficisci, ac ex sacre scripture lectione et inspectione qualiter id faciant plenius instrui valeant; Vobis firmiter injungendo mandamus, ut, completis hiis, que ad vestri ordinis et regularis discipline observanciam pertinent atq; spectant, in claustro sedentes scripture sacre lectioni sancteq; contemplacioni devocius insistatis, sicq secundum regule vestre exigenciam taliter codices inspiciendos requiratis, ut in eis quid fugiendum quid subsequendum ac cujusmodi premium inde consequendum fuerit agnoscere valeatis.

XXXV. Item vobis Domino Priori injungimus, quod cum parentes vel consanguinei alicujus confratris vestri ad eum accesserint, causa visitandi eundem, liberaliter secundum statum sui exigentiam per vos vel illum qui super hoc ministrandi gerit officium infra Prioratum honeste et debite procurentur; sed videant fratres ne nimis sint in talibus Prioratui onerosi.

XXXVI. Item quia parum est jura condere nisi executioni debita demandentur, ea quoque solent labili memorie eo tenacius commendari quo veraciter audientium auribus fuerint sepius inculcata; et, ne vestrum quis piam ignorantiam pretendere valeat premissorum; Vobis firmiter injungendo mandamus, quatinus has nostras injunctiones et decreta pariter supradicta in aliquo volumine competenti absque more dispendio conscribi plenius faciatis, eaque omnia et singula bis annis singulis de cetero coram toto conventu plenius recitari; vos nichilominus omnes et singulos monemus primo secundo et tercio peremptorie, vobis insuper in virtute obediencie arctius injungentes, quatinus ipsas injunctiones nostras et decreta predicta omnia et singula prout ad vos et vestrum quemlibet pertinent et singulariter vos concernunt, teneatis de cetero ac eciam observetis, sub penis et censuris ecclesiasticis supradictis, et aliis penis canonicis in contravenientes quoscumque, prout contumacia delinquencium exegerit, per nos imposterum canonice infligendis. Potestatem autem premissa corrigendi, mutandi in toto vel in parte, interpretandi, declarandi et eisdem addendi, et eciam detrahendi, ac penas adjiciendi, suspendendi, necnon super compertis aliis in visitatione nostra predicta procedendi, criminaque et defectus ac excessus in ipsa comperta et delata corrigendi, ac canonice puniendi, et super ipsis novas injunctiones insuper faciendas, sicut et prout opus fuerit et nobis videbitur expedire, nobis eciam specialiter reservamus. In quorum omnium testimonium sigillum nostrum fecimus hiis apponi. Dat. apud Wynton vicesimo septimo die mensis Septembris anno Domini millesimo CCC° octogesimo septimo et nostre consecrationis anno vicesimo.

(L. S.)

NUMBER IV.

(No. 50.)

INDENTURA PRIORIS *de* SELBORNE *quorundam tradit. Petro Barnes sacristæ ibidem ann. Hen.* 6. - - - *una cum confiss. ejusdem Petri script.*

HEC indentura facta die lune proxime post ffestum natalium Dni anno *regis* Henrici sexti post conquestum anglie v. - - - - - inter ffratrem Johannem Stepe priorem ecclesie beate Marie de Selborne & Petrum Bernes sacrist. ibidem videlicet quod predictus prior deliveravit prefato Petro omnia subscripta In primis XXII amit XXXI aubes vid. v. sine parura pro quadragesima XXII manicul. Item XXII stole Item VIII casule vid. III albe pro quadragesima. Item XI dalmatic. vid. I debit. Item XVI cape vid. IIII veteres. Item unam amittam I albam cum paruris unum manipulum I stolam I casulam et duas dalmaticas de dono Johannis Combe capellani de Cicestria pro diebus principalibus. Item I amittam I aubam cum paruris I manupulum I stolam I casulam de dono ffratris Thome Halybone canonicis. Item I amittam I aubam cum paruris I manupulum I stolam I casulam pertinentem ad altare sancte Catherine virginis pro priore. Item I amittam II aubas cum paruris II manipul II stolas et II casulas pertinentes ad altare sancti Petri de dono patris Ricardi holte. Item de dono ejusdem II tuella vid. I cum fruictello et I canvas pro eodem altare. Item I tuellum pendentem ad terram pro quadragesima. Item VI tuell. cum ffruictibus XV tuell. sine ffruictell. Item IIII tuell. pro lavatore. Item V corporas. Item II ffruictell pro summo altare sine tuellis. Item II coopertor pro le ceste. Item II pallias de serico debili. Item I velum pro quadrigesima. Item I tapetum viridi coloris pro summo altare II ridell cum IIII ridellis parvis pertinent. ad dict. altare. Item VII offretor vid. V debit. Item IIII vexilla. Item IIII pelves III quessones vid. I de serico. Item II super altaria. Item quinq; calices vid. IIII de auro

Item II cruettes de argento de dono dni Johannis Combe capellani de Cicestre. Item VIII cruettes de peuter. Item I coupam argent. et deaur. Item II *osculator argent.* Item I osculatorium cum osse *digiti auricularis S^ti Johannis Baptiste.* Item I crux argent. et deaur. non radicat. Item turribulum argent. et deaur. Item I anulum cum saphiro. Item I aliud anulum politum aureum. Item I anulum argent. et deauratum *S^ti Edmundi.* Item I concha cum pereo infixo. Item I cistam argent. et deaur. Item I imaginem beate Marie argent. et deaurat. Item I parvam crucem *cum* V *reliquiis.* Item I *junctorium S^ti Ricardi.* Item I tecam pro reliquiis imponend. Item I *calefactor. S^ti Ricardi.* Item IIII candelabra vid. II de stagno et II de ferro. Item I *pecten S^ti Ricardi.* Item II viell de cristall in parte fract. Item I pelvim de coper ad lavator. Item II *osculat. de coper.* Item I parvum turribulum de latyn. Item I vas de coper pro frank et sence consecrand. Item I pixidem de juery pro corpore Christi. Item II vasa de plumbo pro oleo conservando. Item I patellam eneam ferro ligat. Item I tripodem ferr. Item 1 costrell contin. II lagen et I potrell. Item II babyngyres. Item II botelles de corio vid. I de quarte et I de pynte. Item III anul. arg. et I pixidem S^te Marie de Waddon. Item ( ) Instrumenta pro Sandyng. Item I ledbnyff. Item I shasshobe. Item I securim. Item II scabell. de ferro pro cancell. Item I plane. Item I cistam sine cerura. Item XIIII sonas. Item XIX taperes ponder. XIIIIlb et dimid. Item II torches ponder. XXlb. Item XIIlb cere et dimid. Item de candelis de cera ponder. VIIlb. Item Ilb de frank et sence. Item I lagenam olei. Item IX pondera de plumbo.

(Vide de stauro in tergo) et in tergo scribuntur hæc, "II vacce I sus IIII hoggett et IIII porcell"

NUMBER V.

(N. 381.)

A Paper conteyning the value of the Manors and Lands pertayning to the Priorie of Selborne. iv. Edw. 3. *With a note of charges yssuing out of it.*

SELEBORNE PRIORATUS.

Summa totalis valoris maneriorum terrarum tenementorum et premissorum ejusdem Prioratus in ffesto S^ti^. Michaelis Archang. anno secundo Regis Edvardi 4^ti^. ut patet Rotul. de valoribus liberat.

$\overline{\text{xx}}$ IIII VI li. (i. e. LXXXVI li.) X s. VI d.

Inde in redditibus resolutis domino pape domino Archiepiscopo et in diversis ffeodis certis personis concessis ac aliis annualibus reprisis in eisdem Rotul. de valoribus annotatis per annum XIIII li. XIX s. V d.

Et remanet de claro valore LXXI li. X s. VIII d.

Videlicet Assignantur pro

Quatuor canonicis et quatuor ffamulis deo et ecclesie ibid. servientibus pro eorum vadiis vestur. et diet. ut patet per bill inde fact. per annum XXX li.

Diversis creditoribus pro eorum debitis persolvendis ut patet per parcell inde fact. XV li. XV s. IIII d.

Reparacionibus Ecclesiarum domorum murorum et clausurarum ejusdem Prioratus per annum XV li. XV s. IIII d.

Annua pencione Domini Prioris ei assignata per annum quousque remanet X li.

SELBORNE PRIORATUS.

Modo sequitur de Reformatione premissorum.

Redditus omn. ffirmis et Pencionibus.	Summa total. valorum. ibid. misis et desperatis inde deductis prout patet per declaracionem Dñi Petri Prioris de Seleborne ad man. Dñi nostri Wynton apud Palacium suum de Wolsley presentat. per ipsum ultimo die ffebr. Ann. Domini MCCCCLXII. et penes ipsum remanet.	LXXI li. X s. VIII d. unde per ipsum Dñum nostrum Wynton assignantur in fforma sequente videlicet
Assignantur ut supra	Pro quatuor canonicis et quatuor ffamulis deo et ecclesie ibid. servientibus pro eorum Diet. vadiis et vestur. ut patet per bill̄ inde fact.	XXX li.
	Pro annua pencione Prioris quousque *remanet.*	X li.
	Pro diversis creditoribus pro eorum debitis persolvendis ut patet per bill̄ inde fact.	XV li. XV s. IIII d. per II annos ad XXXI li. X s. VIII d. ultra LV li. XIIII d. de vendit. stauri.
	Pro diversis reparacionibus ecclesiarum domorum murorum et clausurarum ut patet per bill̄.	XV li. XV s. IIII d. per II annos ad XXXI li. X s. VIII d. Summa total. valoris pro debitis et reparacionibus assignat. cum LV li. XIIII d. de vendit. Stauri ut supra CXVIII li. II s. VI d.

Debita que debentur ibid. per diversos tenentes et ffirmarios ad festum S^ti^. Michaelis anno tertio Regis Edvardi 4^ti^. videlicet

Abbas de Derford de ffeod. ffirme sua ad IX li. VI s. VIII d. per annum a retro	XX li. VII s. XI d.
Thomas Perkyns armig. ffirmarius Rectorie de Estworlam pro uno anno finiente ad ffestum S^ti^. Mich. anno II. Regis Edvardi 4^ti^.	LX s.
Johannes Shalmere bal̄l de Selborne debet	LXXV s.
Ricardus Cawry debet de eodem anno	VI s.
Summa	XXVII li. VIII s. XI d.

Thomas Perkyns armig. debet de ffirme sua predicta ad festum S^{ti}. Mich. ann. VII et ultra feod. suum ad XX s. per annum	VII li. VI s. VIII d.
Thomas lusher debet pro ffirme sua ad XL s. per annum cum feod. suis ad XX s. per annum	C. s.
Hugo Pakenham debet de reddit. suo ad XX s. per ann.	C. s.
Abbas de Derford debet de ffeod ffirme sua ultra XX li. VII. s. XI d. ut supra pro annis III. IIII. et V. Regis Edvardi	XXVIII li.
Walterus Berlond ffirmarius de *Shene* debet	IX li. V s. II d.
Henr. Shafter ffirmarius *ffeod* de Basynstoke	XII li. IIII d.
Henr. lode nuper ffirmarius manerii de *Chede* debet	XX li.
Total. LXXXXIV li. XII d.	
Summa	LXVI li. XII s. VI d.

A

COMPARATIVE VIEW

OF THE

NATURALIST'S CALENDAR,

AS KEPT AT

SELBORNE, IN HAMPSHIRE,

BY THE LATE

REV. GILBERT WHITE, M.A.

AND

AT CATSFIELD, NEAR BATTLE,
IN SUSSEX,

BY WILLIAM MARKWICK, ESQ., F.L.S.

FROM THE YEAR 1768 TO THE YEAR 1793.

N.B. The dates in the following calendars, when more than one, express the *earliest* and the *latest* times in which the circumstance noted was observed.

A COMPARATIVE VIEW OF WHITE'S AND MARKWICK'S CALENDARS.

Of the abbreviations used, *fl.* signifies *flowering*; *l. leafing*; and *ap.* the first *appearance*.

	WHITE.	MARKWICK.
Redbreast (sylvia rubecula) sings	Jan. 1—12	Jan. 3—31, and again Oct. 6
Larks (alauda arvensis) congregate	Jan. 1—18	Oct. 16. Feb. 9
Nuthatch (sitta europæa) heard	Jan. 1—14	March 3. April 10
Winter aconite (helleborus hiemalis) fl.	Jan. 1. Feb. 18	Feb. 28. April 17
Shelless snail or slug (limax) ap.	Jan. 2	Jan. 16. May 31
Grey & White wagtail (motacilla boarula) ap. (motacilla alba) ap.	Jan. 2—11	Jan. 24. March 26 Dec. 12. Feb. 23
Missel thrush (turdus viscivorus) sings	Jan. 2—14	Feb. 19. April 14
Bearsfoot (helleborus fœtidus) fl.	Jan. 2. Feb. 14	March 1. May 5
Polyanthus (primula polyantha) fl.	Jan. 2. April 12	Jan. 1. April 9
Double daisy (bellis perennis plena) fl.	Jan. 2. Feb. 1	Mar. 17. April 29
Mezereon (daphne mezereum) fl.	Jan. 3. Feb. 16	Jan. 2. April 4
Pansie (viola tricolor) fl.	Jan. 3	Jan. 1. May 10
Red dead-nettle (lamium purpureum) fl.	Jan. 3—21	Jan. 1. April 5
Groundsel (senecio vulgaris) fl.	Jan. 3—15	Jan. 1. April 9
Hazel (corylus avellana) fl.	Jan. 3. Feb. 28	Jan. 21. March 11
Hepatica (anemone hepatica) fl.	Jan. 4. Feb. 18	Jan. 17. April 9
Hedge sparrow (sylvia modularis) sings	Jan. 5—12	Jan. 16. March 13
Common flies (musca domestica) seen in numbers	Jan. 5. Feb. 3	May 15
Greater titmouse (parus major) sings	Jan. 6. Feb. 6	Feb. 17. March 17
Thrush (turdus musicus) sings	Jan. 6—22	Jan. 15. April 4
Insects swarm under sunny hedges	Jan. 6	
Primrose (primula vulgaris) fl.	Jan. 6. April 7	Jan. 3. March 22
Bees (apis mellifica) ap.	Jan. 6. Mar. 19	Jan. 31. April 11,
Gnats play about	Jan. 6. Feb. 3	[last seen Dec. 30
Chaffinches, male and female, (fringilla cælebs) seen in equal numbers	Jan. 6—11	Dec. 2. Feb. 3
Furze or gorse (ulex europæus) fl.	Jan. 8. Feb. 1	Jan. 1. March 27
Wall-flower (cheiranthus cheiri; seu fruticulosus of Smith) fl.	Jan. 8. April 1	Feb. 21. May 9
Stock (cheiranthus incanus) fl.	Jan. 8—12	Feb. 1. June 3
Emberiza alba (bunting) in great flocks	Jan. 9	
Linnets (fringilla linota) congregate	Jan. 9	Jan. 11
Lambs begin to fall	Jan. 9—11	Jan. 6. Feb. 21
Rooks (corvus frugilegus) resort to their nest trees	Jan. 10. Feb. 11	Jan. 23
Black hellebore (helleborus niger) fl.	Jan. 10	April 27
Snow-drop (galanthus nivalis) fl.	Jan. 10. Feb. 5	Jan. 18. March 1
White dead nettle (lamium album) fl.	Jan. 13	March 23. May 10
Trumpet honey-suckle, fl.	Jan. 13	
Common creeping crowfoot (ranunculus repens) fl.	Jan. 13	April 10. May 12
House sparrow (fringilla domestica) chirps	Jan. 14	Feb. 17. May 9
Dandelion (leontodon taraxacum) fl.	Jan. 16. Mar. 11	Feb. 1. April 17

	WHITE.	MARKWICK.
Bat (vespertilio) ap.	Jan. 16. Mar. 24	Feb. 6. June 1, last
Spiders shoot their webs	Jan. 16	[seen Nov. 20
Butterfly ap.	Jan. 16	Feb. 21. May 8, last seen Dec. 22
Brambling (fringilla montifringilla) ap.	Jan. 16	Jan. 10—31
Black-bird (turdus merula) whistles	Jan. 17	Feb. 15. May 13
Wren (sylvia troglodytes) sings	Jan. 17	Feb. 7. June 12
Earth-worms lie out	Jan. 18. Feb. 8	
Crocus (crocus vernus) fl.	Jan. 13. Mar. 18	Jan. 20. March 19
Sky-lark (alauda arvensis) sings	Jan. 21	Jan. 12. Feb. 27,
Ivy casts its leaves	Jan. 22	[sings till Nov. 13
Helleborus hiemalis, fl.	Jan. 22—24	Feb. 28, April 17
Common dor or clock (scarabæus stercorarius)	Jan. 23	Feb. 12, April 19,
Peziza acetabulum ap.	Jan. 23	[last seen Nov. 24
Helleborus viridis fl.	Jan. 23. Mar. 5	
Hazel (corylus avellana) fl.	Jan. 23. Feb. 1	Jan. 27. March 11
Woodlark (alauda arborea) sings	Jan. 24. Feb. 21	Jan 28. June 5
Chaffinch (fringilla cælebs) sings	Jan. 24. Feb. 15	Jan. 21. Feb. 26
Jack-daws begin to come to churches	Jan. 25. Mar. 4	
Yellow wagtail (motacilla flava) ap.	Jan. 25. Apr. 14	April 13. July 3, last seen Sept. 8
Honeysuckle (lonicera periclymenum) l.	Jan. 25	Jan. 1. April 9
Field or procumbent speedwell (veronica agrestis) fl.	Jan. 27. Mar. 15	Feb. 12. March 29
Nettle butterfly (papilio urticæ) ap.	Jan. 27. Apr. 2	March 5. April 24, last seen June 6
White wagtail (motacilla alba) chirps	Jan. 28	March 16
Shell-snail (helix nemoralis) ap.	Jan. 28. Feb. 24	April 2. June 11
Earth-worms engender	Jan. 30	
Barren strawberry (fragaria sterilis) fl.	Feb. 1. Mar. 26	Jan. 13. March 26
Blue titmouse (parus cæruleus) chirps	Feb. 1	April 27
Brown wood-owls hoot	Feb. 2	
Hen (phasianus gallus) sits	Feb. 3	March 8 hatches
Marsh titmouse begins his two harsh sharp notes	Feb. 3	
Gossamer floats	Feb. 4. April 1	
Musca tenax ap.	Feb. 4. April 8	
Laurustine (viburnum tinus) fl	Feb. 5	Jan. 1. April 5
Butcher's broom (ruscus aculeatus) fl.	Feb. 5	Jan. 1. May 10
Fox (canis vulpes) smells rank	Feb. 7	May 19 young
Turkey-cocks strut and gobble	Feb. 10	[brought forth
Yellow-hammer (emberiza citrinella) sings	Feb. 12	Feb. 18. April 28
Brimstone butterfly (papilio rhamni) ap.	Feb. 13. April 2	Feb. 13. March 8, [last seen Dec. 24
Green woodpecker (picus viridis) makes a loud cry	Feb. 13. Mar. 23	Jan. 1. April 17
Raven (corvus corax) builds	Feb. 14—17	April 1, has young [ones June 1
Yew tree (taxus baccata) fl.	Feb. 14. Mar. 27	Feb. 2. April 11
Coltsfoot (tussilago farfara) fl.	Feb. 15. Mar. 23	Feb. 18. April 13
Rooks (corvus frugilegus) build	Feb. 16. Mar. 6	Feb. 28. March 5
Partridges (perdix cinerea) pair	Feb. 17	Feb. 16. March 20
Peas (pisum sativum) sown	Feb. 17. Mar. 8	Feb. 8. March 31
House pigeon (columba domestica) has young ones	Feb. 18	Feb. 8
Field crickets open their holes	Feb. 20. Mar. 30	
Common flea (pulex irritans) ap.	Feb. 21—26	

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Pilewort (ficaria verna) fl.	Feb. 21. Apr. 13	Jan. 25. March 26
Goldfinch (fringilla carduelis) sings	Feb. 21. Apr. 5	Feb. 28. May 5
Viper (coluber berus) ap.	Feb. 22. Mar. 26	Feb. 23. May 6, last [seen Oct. 28
Wood-louse (oniscus asellus) ap.	Feb. 23. Apr. 1	April 27. June 17
Missel thrushes pair	Feb. 24	
Daffodil (narcissus pseudonarcissus) fl.	Feb. 24. Apr. 7	Feb. 26. April 18
Willow (salix alba) fl.	Feb. 24. Apr. 2	Feb. 27. April 11
Frogs (rana temporaria) croak	Feb. 25	Mar. 9. April 20
Sweet violet (viola odorata) fl.	Feb. 26. Mar. 31	Feb. 7. April 5
Phalæna tinea vestianella ap.	Feb. 26	
Stone curlew (otis oedicnemus) clamours	Feb. 27. Apr. 24	June 17
Filbert (corylus sativus) fl.	Feb. 27	Jan. 25. Mar. 26
Ring-dove cooes	Feb. 27. Apr. 5	Mar. 2. Aug. 10
Apricot-tree (prunus armeniaca) fl.	Feb.	Feb. 28. April 5
Toad (rana bufo) ap.	Feb. 28. Mar. 24	Mar. 15. July 1
Frogs (rana temporaria) spawn	Feb. 28. Mar. 22	Feb. 9. April 10, [tadpoles Mar. 19
Ivy-leaved speedwell (veronica hederi-[folia) fl.	Mar. 1. Apr. 2	Feb. 16. April 10
Peach (amygdalus persica) fl.	Mar. 2. Apr. 17	Mar. 4. April 29
Frog (rana temporaria) ap.	Mar. 2. Apr. 6	March 9
Shepherd's purse (thlaspi bursa pastoris) fl.	Mar. 3	Jan. 2. April 16
Pheasant (phasianus colchicus) crows	Mar. 3—29	March 1. May 22
Land tortoise comes forth	Mar. 4. May 8	
Lungwart (pulmonaria officinalis) fl.	Mar. 4. Apr. 16	March 2. May 19
Podula fimetaria ap.	Mar. 4	
Aranea scenica saliens ap.	Mar. 4	
Scolopendra forficata ap.	Mar. 5—16	[last seen Sept. 14
Wryneck (jynx torquilla) ap.	Mar. 5. Apr. 25	Mar. 26. April 23,
Goose (anas anser) sits on it's eggs	Mar. 5	March 21
Duck (anas boschas) lays	Mar. 5	March 28
Dog's violet (viola canina) fl.	Mar. 6. Apr. 18	Feb. 28. April 22
Peacock butterfly (papilio io) ap.	Mar. 6	Feb. 13. April 20,
Trouts begin to rise	Mar. 7—14	[last seen Dec. 25
Field beans (vicia faba) planted	Mar. 8	April 21 emerge
Blood-worms appear in the water	Mar. 8	
Crow (corvus corone) builds	Mar. 10	July 1 has young ones
Oats (avena sativa) sown	Mar. 10—18	Mar. 16. April 13
Golden crowned wren (sylvia regulus) sings	Mar. 12. Apr. 30	April 15. May 22, seen Dec. 23. Jan. 26
Asp (populus tremula) fl.	Mar. 12	Feb. 26. Mar. 28
Common elder (sambucus nigra) l.	Mar. 13—20	Jan. 24. April 22
Laurel (prunus laurocerasus) fl.	Mar. 15. May 21	April 2. May 27
Chrysomela Gotting. ap.	Mar. 15	
Black ants (formica nigra) ap.	Mar. 15. Apr. 22	Mar. 2. May 18
Ephemeræ bisetæ ap.	Mar. 16	
Gooseberry (ribes grossularia) l.	Mar. 17. Apr. 11	Feb. 26. April 9
Common stitchwort (stellaria holostea) fl.	Mar. 17. May 19	Mar. 8. May 7
Wood anemone (anemone nemorosa) fl.	Mar. 17. Apr. 22	Feb. 27. April 10
Blackbird (turdus merula) lays	Mar. 17	Apr. 14, young ones May 19
Raven (corvus corax) sits	Mar. 17	April 1 builds
Wheatear (sylvia oenanthe) ap.	Mar. 18—30	Mar. 13. May 23, [last seen Oct. 26
Musk wood crowfoot (adoxa moschatellina) fl.	Mar. 18. Apr. 13	Feb. 23. April 28

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Willow wren (sylvia trochilus) ap.	Mar. 19. Apr. 13	Mar. 30. May 16, sits May 27, last seen Oct. 23
Fumaria bulbosa fl.	Mar. 19	
Elm (ulmus campestris) fl.	Mar. 19. Apr. 4	Feb. 17. April 25
Turkey (meleagris gallopavo) lays	Mar. 19. Apr. 7	Mar. 18—25, sits April 4, young ones April 30
House pigeons (columba domestica) sit	Mar. 20	March 20 young hatched
Marsh marigold (caltha palustris) fl.	Mar. 20. Apr. 14	Mar. 22. May 8
Buzz-fly (bombylius medius) ap.	Mar. 21. Apr. 28	Mar. 15. April 30
Sand-martin (hirundo riparia) ap.	Mar. 21. Apr. 12	April 8. May 16, last seen Sept. 8
Snake (coluber natrix) ap.	Mar. 22—30	Mar. 3. April 29, last seen Oct. 2
Horse ant (formica herculeana) ap.	Mar. 22. Apr. 18	Feb. 4. Mar. 26, last seen Nov. 12
Greenfinch (loxia chloris) sings	Mar. 22. Apr. 22	Mar. 6. April 26
Ivy (hedera helix) berries ripe	Mar. 23. Apr. 14	Feb. 16. May 19
Periwincle (vinca minor) fl.	Mar. 25	Feb. 6. May 7
Spurge laurel (daphne laureola) fl.	Mar. 25. Apr. 1	April 12—22
Swallow (hirundo rustica) ap.	Mar. 26. Apr. 20	April 7—27, last seen Nov. 16
Black-cap (sylvia atricapilla) heard	Mar. 26. May 4	April 14. May 18, seen Ap. 14. May 20, last seen Sept. 19
Young ducks hatched	Mar. 27	April 6. May 16
Golden saxifrage (chrysosplenium oppositifolium) fl.	Mar. 27. Apr. 9	Feb. 7. Mar. 27
Martin (hirundo urbica) ap.	Mar. 28, May 1	April 14. May 8, last seen Dec. 8
Double hyacinth (hyacinthus orientalis) fl.	Mar. 29. Apr. 22	Mar. 13. April 24
Young geese (anas anser)	Mar. 29	Mar. 29. April 19
Wood sorrel (oxalis acetosella) fl.	Mar. 30. Apr. 22	Feb. 26. April 26
Ring ouzel (turdus torquatus) seen	Mar. 30. Apr. 17	Oct. 11
Barley (hordeum sativum) sown	Mar. 31. Apr. 30	April 12. May 20
Nightingale (sylvia luscinia) sings	April 1. May 1	April 5. July 4, last seen Aug. 29
Ash (fraxinus excelsior) fl.	April 1. May 4	Mar. 16. May 8
Spider's webs on the surface of the ground	April 1	
Checquered daffodil (fritillaria meleagris) fl.	April 2—24	April 15. May 1
Julus terrestris ap.	April 2	
Cowslip (primula veris) fl.	April 3—24	Mar. 3. May 17
Ground-ivy (glecoma hederacea) fl.	April 3—15	Mar. 2. April 16
Snipe pipes	April 3	
Box-tree (buxus sempervirens) fl.	April 3	Mar. 27. May 8
Elm (ulmus campestris) l.	April 3	April 2. May 19
Gooseberry (ribes grossularia) fl.	April 3—14	Mar. 21. May 1
Currant (ribes hortense) fl.	April 3—5	Mar. 24. April 28
Pear-tree (pyrus communis) fl.	April 3. May 21	Mar. 30. April 30
Lacerta vulgaris (newt or eft) ap.	April 4	Feb. 17. April 15, last seen Oct. 9
Dogs mercury (mercurialis perennis) fl.	April 5—19	Jan..20. April 16
Wych elm (ulmus glabra seu montana of Smith) fl.	April 5	Apr. 19. May 10 l.

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Ladysmock (cardamine pratensis) fl.	April 6—20	Feb. 21. April 26
Cuckoo (cuculus canorus) heard	April 7—26	Ap. 15. May 3, last heard June 28
Black-thorn (prunus spinosa) fl.	April 7. May 10	Mar. 16. May 8
Death-watch (termes pulsatorius) beats	April 7	Mar. 28. May 28
Gudgeon spawns	April 7	
Red-start (sylvia phœnicurus) ap.	April 8—28	Ap. 5, sings Ap. 25, last seen Sept. 30
Crown imperial (fritillaria imperialis) fl.	April 8—24	April 1. May 13
Tit-lark (alauda pratensis) sings	April 9—19	April 14—29, sits June 16—27
Beech (fagus sylvatica) l.	April 10. May 8	April 24. May 25
Shell-snail (helix nemoralis) comes out in troops	April 11. May 9	May17. June11 ap.
Middle yellow wren ap.	April 11	
Swift (hirundo apus) ap.	April 13. May 7	April 28. May 19
Stinging-fly (conops calcitrans) ap.	April 14. May 17	
Whitlow grass (draba verna) fl.	April 14	Jan. 15. Mar. 24
Larch-tree (pinus-larix rubra) l.	April 14	April 1. May 9
Whitethroat (sylvia cinerea) ap.	April 14. May 14	Ap. 14. May 5, sings May 3—10, last seen Sept. 23
Red-ant (formica rubra) ap.	April 14	April 9. June 26
Mole cricket (gryllus gryllotalpa) churs	April 14 [23	
Second willow or laughing wren ap.	April 14—19—	
Red rattle (pedicularis sylvatica) fl.	April 15—19	April 10. June 4
Common flesh-fly (musca carnaria) ap.	April 15	
Lady cow (coccinella bipunctata) ap.	April 16	
Grasshopper-lark (alauda locustæ voce) ap.	April 16—30	
Willow wren its shivering note heard	April 17. May 7	April 28. May 14
Middle willow wren (regulus non cristatus medius) ap.	April 17—27	
Wild cherry (prunus cerasus) fl.	April 18. May 12	March 30. May 10
Garden cherry (prunus cerasus) fl.	April 18. May 11	March 25. May 6
Plum (prunus domestica) fl.	April 18. May 5	March 24. May 6
Harebell (hyacinthus non-scriptus seu scilla nutans of Smith) fl.	April 19—25	March 27. May 8
Turtle (columba turtur) cooes.	April 20—17	May 14. Aug. 10 [seen
Hawthorn (cratægus seu mespilus oxycantha of Smith) fl.	April 20. June 11	April 19. May 26
Male fool's orchis (orchis mascula) fl.	April 21	March 29. May 13
Blue flesh fly (musca vomitoria) ap.	April 21. May 23	
Black snail or slug (limax ater) abounds	April 22	Feb. 1. Oct. 24 ap.
Apple-tree (pyrus-malus sativus) fl.	April 22. May 25	April 11. May 26
Large bat ap.	April 22. June 11	
Strawberry, wild wood (fragaria vesca sylv.) fl.	April 23—29	April 8—9
Sauce alone (erysimum alliaria) fl.	April 23	March 31. May 8
Wild or bird cherry (prunus avium) fl.	April 24	March 30. May 10
Apis hypnorum ap.	April 24	
Musca meridiana ap.	April 24. May 28	
Wolf-fly (asilus) ap.	April 25	
Cabbage butter-fly (papilio brassicæ) ap.	April 28. May 20	April 29. June 15
Dragon-fly (libellula) ap.	April 30. May 21	April 18. May 13, [last seen Nov. 10
Sycamore (acer pseudoplatanus) fl.	April 30. June 6	April 20. June 4
Bombylius minor ap.	May 1	

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Glow-worm (lampyris noctiluca) shines	May 1. June 11	June 19. Sept. 28
Fern-owl or goatsucker (caprimulgus europæus) ap.	May 1—26	May 16. Sept. 14
Common bugle (ajuga reptans) fl.	May 1	March 27. May 10
Field crickets (gryllus campestris) crink	May 2—24	
Chaffer or may-bug (scarabæus melolontha) ap.	May 2—26	May 2. July 7
Honeysuckle (lonicera periclymenum) fl.	May 3—30	April 24. June 21
Toothwort (lathræa squamaria) fl.	May 4—12	
Shell-snails copulate	May 4. June 17	
Sedge warbler (sylvia salicaria) sings	May 4	June 2—30
Mealy tree (viburnum lantana) fl.	May 5—17	April 25. May 22
Flycatcher(stoparola s.muscicapa grisola)ap	May 10—30	April 29. May 21
Apis longicornis ap.	May 10. June 9	
Sedge warbler (sylvia salicaria) ap.	May 11—13	Aug. 2
Oak (quercus robur) fl.	May 13—15	April 29. June 4
Admiral butter-fly (papilio atalanta) ap.	May 13	
Orange-tip (papilo cardamines) ap.	May 14	March 30. May 19
Beech (fagus sylvatica) fl.	May 15—26	April 23. May 28
Common maple (acer campestre) fl.	May 16	April 24. May 27
Barberry-tree (berberis vulgaris) fl.	May 17—26	April 28. June 4
Wood argus butter-fly (papilio ægeria) ap.	May 17	
Orange lilly (lilium bulbiferum) fl.	May 18. June 11	June 14. July 22
Burnet moth (sphinx filipendulæ) ap.	May 18. June 13	May 24. June 26
Walnut (juglans regia) l.	May 18	April 10. June 1
Laburnum (cytisus laburnum) fl.	May 18. June 5	May 1. June 23
Forest-fly (hippobosca equina) ap.	May 18. June 9	
Saintfoin (hedysarum onobrychis) fl.	May 19. June 8	May 21. July 28
Peony (pæonia officinalis) fl.	May 20. June 15	April 18. May 26
Horse chesnut (æsculus hippocastanum) fl.	May 21. June 9	April 19. June 7.
Lilac (syringa vulgaris) fl.	May 21	April 15. May 30
Columbine (aquilegia vulgaris) fl.	May 21—27	May 6. June 13
Medlar (mespilus germanica) fl.	May 21. June 20	April 8. June 19
Tormentil (tormentilla erecta seu officinalis of Smith) fl.	May 21	April 17. June 11
Lily of the valley (convallaria majalis) fl.	May 22	April 27. June 13
Bees (apis mellifica) swarm	May 22. July 22	May 12. June 23
Woodroof (asperula odorata) fl.	May 22—25	April 14. June 4
Wasp, female, (vespa vulgaris) ap.	May 23	April 2. June 4, last [seen Nov. 2
Mountain ash (sorbus seu pyrus aucuparia of Smith) fl.	May 23. June 8	April 20. June 8
Birds-nest orchis (ophrys nidus avis) fl.	May 24. June 11	May 18. June 12
White-beam tree (cratægus seu pyrus aria of Smith) l.	May 24. June 4	May 3
Milkwort (polygala vulgaris) fl.	May 24. June 7	April 13. June 2
Dwarf cistus (cistus helianthemum) fl.	May 25	May 4. Aug. 8
Gelder rose (viburnum opulus) fl.	May 26	May 10. June 8
Common elder (sambucus nigra) fl.	May 26. June 25	May 6. June 17
Cantharis noctiluca ap.	May 26	
Apis longicornis bores holes in walks	May 27. June 9	
Mulberry-tree (morus nigra) l.	May 27. June 13	May 20. June 11
Wild service-tree (cratægus seu pyrus torminalis of Smith) fl.	May 27	May 13. June 19
Sanicle (sanicula europæa) fl.	May 27. June 13	April 23. June 4
Avens (geum urbanum) fl.	May 28	May 9. June 11
Female fool's orchis (orchis morio) fl.	May 28	April 17. May 20
Ragged Robin (lychnis flos cuculi) fl.	May 29. June 1	May 12. June 8

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Burnet (poterium sanguisorba) fl.	May 29	April 30. Aug. 7
Foxglove (digitalis purpurea) fl.	May 30. June 22	May 23. June 15
Corn-flag (gladiolus communis) fl.	May 30. June 20	June 9. July 8
Serapias longifol. fl.	May 30. June 13	
Raspberry (rubus idæus) fl.	May 30. June 21	May 10. June 16
Herb Robert (geranium Robertianum) fl.	May 30	March 7. May 16
Figwort (scrophularia nodosa) fl.	May 31	May 12. June 20
Gromwell (lithospermum officinale) fl.	May 31	May 10—24
Wood spurge (euphorbia amygdaloides) fl.	June 1	March 23. May 13
Ramsons (allium ursinum) fl.	June 1	April 21. June 4
Mouse-ear scorpion grass (myosotis scorpioides) fl.	June 1	April 11. June 1
Grasshopper (gryllus grossus) ap.	June 1—14	March 25. July 6, [last seen Nov. 3
Rose (rosa hortensis) fl.	June 1—21	June 7. July 1
Mouse-ear hawkweed (hieracium pilosella) fl.	June 1. July 16	April 19. June 12
Buckbean (menyanthes trifoliata) fl.	June 1	April 20. June 8
Rose chaffer (scarabæus auratus) ap.	June 2—8	April 18. Aug. 4
Sheep (ovis aries) shorn	June 2—23	May 23. June 17
Water-flag (iris pseudo-acorus) fl.	June 2	May 8. June 9
Cultivated rye (secale cereale) fl.	June 2	May 27
Hounds tongue (cynoglossum officinale) fl.	June 2	May 11. June 7
Helleborine (serapias latifolia) fl.	June 2. Aug. 6	July 22. Sept. 6
Green-gold fly (musca cæsar) ap.	June 2	
Argus butterfly (papilio mœra) ap.	June 2	
Spearwort (ranunculus flammula) fl.	June 3	April 25. June 13
Birdsfoot trefoil (lotus corniculatus) fl.	June 3	April 10. June 3
Fraxinella or white dittany (dictamnus albus) fl.	June 3—11	June 9. July 24
Phryganea nigra ap.	June 3	
Angler's may-fly (ephemera vulg.) ap.	June 3—14	
Ladies finger (anthyllis vulneraria) fl.	June 4	June 1. Aug. 16
Bee-orchis (ophrys apifera) fl.	June 4. July 4	
Pink (dianthus deltoides) fl.	June 5—19	May 26. July 6
Mock orange (philadelphus coronarius) fl.	June 5	May 16. June 23
Libellula virgo ap.	June 5—20	
Vine (vitis vinifera) fl.	June 7. July 30	June 18. July 29
Portugal laurel (prunus lusitanicus) fl.	June 8. July 1	June 3. July 16
Purple spotted martagon (lilium martagon) fl.	June 8—25	June 18. July 19
Meadow cranes-bill (geranium pratense) fl.	June 8. Aug. 1	
Black bryony (tamus communis) fl.	June 8	May 15. June 21
Field pea (pisum sativum arvense) fl.	June 9	May 15. June 21
Bladder campion (cucubalus behen seu silene inflata of Smith) fl.	June 9	May 4. July 13
Bryony (bryonia alba) fl.	June 9	May 13. Aug. 17
Hedge-nettle (stachys sylvatica) fl.	June 10	May 28. June 24
Bittersweet (solanum dulcamara) fl.	June 11	May 15. June 20
Walnut (juglans regia) fl.	June 12	April 18. June 1
Phallus impudicus ap.	June 12. July 23	
Rosebay willow-herb (epilobium angustifolium) fl.	June 12	June 4. July 28
Wheat (triticum hybernum) fl.	June 13. July 22	June 4—30
Comfrey (symphytum officinale) fl.	June 13	May 4. June 23
Yellow pimpernel (lysimachia nemorum) fl.	June 13—30	April 10. June 12
Tremella nostoc ap.	June 15. Aug. 24	

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Buckthorn (rhamnus catharticus) l.	June 16	May 25
Cuckow-spit insect (cicada spumaria) ap.	June 16	June 2—21
Dog-rose (rosa canina) fl.	June 17, 18	May 24. June 21
Puff-ball (lycoperdon bovista) ap.	June 17. Sept. 3	May 6. Aug. 19
Mullein (verbascum thapsus) fl.	June 18	June 10. July 22
Viper's bugloss (echium anglicum seu vulgare of Smith) fl.	June 19	May 27. July 3
Meadow hay cut	June 19. July 20	June 13. July 7
Stag beetle (lucanus cervus) ap.	June 19	June 14—21
Borage (borago officinalis) fl.	June 20	April 22. July 26
Spindle-tree (evonymus europæus) fl.	June 20	May 11. June 25
Musk thistle (carduus nutans) fl.	June 20. July 4	June 4. July 25
Dogwood (cornus sanguinea) fl.	June 21	May 28. June 27
Field scabious (scabiosa arvensis) fl.	June 21	June 16. Aug. 14
Marsh thistle (carduus palustris) fl.	June 21—27	May 15. June 19
Dropwort (spiræa filipendula) fl.	June 22. July 9	May 8. Sept. 3
Great wild valerian (valeriana officinalis) fl.	June 22. July 7	May 22. July 21
Quail (perdix coturnix) calls	June 22. July 4	July 23, seen Sept. [1—18
Mountain willow-herb (epilobium montanum) fl.	June 22	June 5—21
Thistle upon thistle (carduus crispus) fl.	June 23—29	May 22. July 22
Cow-parsnep (heracleum sphondylium) fl.	June 23	May 27. July 12
Earth-nut (bunium bulbocastanum seu flexuosum of Smith) fl.	June 23	May 4—31
Young frogs migrate	June 23. Aug. 2	
Oestrus curvicauda ap.	June 24	
Vervain (verbena officinalis) fl.	June 24	June 10. July 17
Corn poppy (papaver rhœas) fl.	June 24	April 30. July 15
Self-heal (prunella vulgaris) fl.	June 24	June 7—23
Agrimony (agrimonia eupatoria) fl.	June 24—29	June 7. July 9
Great horse-fly (tabanus bovinus) ap.	June 24. Aug. 2	
Greater knapweed (centaurea scabiosa) fl.	June 25.	June 7. Aug. 14
Mushroom (agaricus campestris) ap.	June 26. Aug. 30	April 16. Aug. 16
Common mallow (malva sylvestris) fl.	June 26	May 27. July 13
Dwarf mallow (malva rotundifolia) fl.	June 26	May 12. July 30
St. John's wort (hypericum perforatum) fl.	June 26	June 15. July 12
Broom-rape (orobanche major) fl.	June 27. July 4	May 9. July 25
Henbane (hyoscyamus niger) fl.	June 27	May 13. June 19
Goats-beard (tragopogon pratense) fl.	June 27	June 5—14
Deadly nightshade (atropa belladonna) fl.	June 27	May 22. Aug. 14
Truffles begin to be found	June 28. July 29	
Young partridges fly	June 28. July 31	July 8—28
Lime-tree (tilia europæa) fl.	June 28. July 31	June 12. July 30
Spear thistle (carduus lanceolatus) fl.	June 28. July 12	June 27. July 18
Meadow sweet (spiræa ulmaria) fl.	June 28	June 16. July 24
Greenweed (genista tinctoria) fl.	June 28	June 4. July 24
Wild thyme (thymus serpyllum) fl.	June 28	June 6. July 19
Stachys germanica fl.	June 29. July 20	
Day-lily (hemerocallis flava) fl.	June 29. July 4	May 29. June 9
Jasmine (jasminum officinale) fl.	June 29. July 30	June 27. July 21
Holy-oak (alcea rosea) fl.	June 29. Aug. 4	July 4. Sept. 7
Monotropa hypopithys fl.	June 29. July 23	
Ladies bedstraw (galium verum) fl.	June 29	June 22. Aug. 3
Galium palustre fl.	June 29	
Nipplewort (lapsana communis) fl.	June 29	May 30. July 24
Welted thistle (carduus acanthoides) fl.	June 29	
Sneezewort (achillea ptarmica) fl.	June 30	June 22. Aug. 3

	WHITE.	MARKWICK.
Musk mallow (malva moschata) fl.	June 30	June 9. July 14
Pimpernel (anagallis arvensis) fl.	June 30	May 4. June 22
Hoary beetle (scarabæus solsit) ap.	June 30. July 17	
Corn saw-wort (serratula arvensis seu carduus arvensis of Smith) fl.	July 1	June 15. July 15
Pheasant's eye (adonis annua seu autumnalis of Smith) fl.	July 1	April 11. July 15
Red eyebright (euphrasia seu bartsia odontites of Smith) fl.	July 2	June 20. Aug. 10
Thorough wax (bupleurum rotundifol.) fl.	June 2	
Cockle (agrostemma githago) fl.	July 2	May 14. July 25
Ivy-leaved wild lettuce (prenanthes muralis) fl.	July 2	June 2. July 25
Feverfew (matricaria seu pyrethrum parthenium of Smith) fl.	July 2	June 19. July 24
Wall pepper (sedum acre) fl.	July 3	June 8. July 12
Privet (ligustrum vulgare) fl.	July 3	June 3. July 13
Common toadflax (antirrhinum linaria) fl.	July 3	June 21. Aug. 3
Perennial wild flax (linum perenne) fl.	July 4	April 21. July 6
Whortle-berries ripe (vaccinium ulig.)	July 4—24	
Yellow base rocket (reseda lutea) fl.	July 5	July 19.
Blue bottle (centaurea cyanus) fl.	July 5	May 15. Oct. 14
Dwarf carline thistle (carduus acaulis) fl.	July 5—12	June 30. Aug. 4
Bull-rush or cats-tail (typha latifolia) fl.	July 6	June 29. July 21
Spiked willow-herb (lythrum salicaria) fl.	July 6	June 24. Aug. 17
Black mullein (verbascum niger) fl.	July 6	
Chrysanthemum coronarium fl.	July 6	May 28. July 28
Marigolds (calendula officinalis) fl.	July 6—9	April 20. July 16
Little field madder (sherardia arvensis) fl.	July 7	Jan. 11. June 6
Calamint (melissa seu thymus calamintha of Smith) fl.	July 7	July 21
Black horehound (ballota nigra) fl.	July 7	June 16. Sept. 12
Wood betony (betonica officinalis) fl.	July 8—19	June 10. July 15
Round-leaved bell-flower (campanula rotundifolia) fl.	July 8	June 12. July 29
All-good (chenopodium bonus henricus) fl.	July 8	April 21. June 15
Wild carrot (daucus carota) fl.	July 8	June 7. July 14
Indian cress (epopæolum majus) fl.	July 8—20	June 11. July 25
Cat-mint (nepeta cataria) fl.	July 9	
Cow-wheat (melampyrum sylvaticum seu pratense of Smith) fl.	July 9	May 2. June 22
Crosswort (valantia cruciata seu galium cruciatum of Smith) fl.	July 9	April 10. May 28
Cranberries ripe	July 9—27	
Tufted vetch (vicia cracca) fl.	July 10	May 31. July 8
Wood vetch (vicia sylvat.) fl.	July 10	
Little throat-wort (campanula glomerata) fl.	July 11	July 28. Aug. 18
Sheep's scabious (jasione montana) fl.	July 11	June 10. July 25
Pastinaca sylv. fl.	July 12	
White lily (lilium candidum) fl.	July 12	June 21. July 22
Hemlock (conicum maculatum) fl.	July 13	June 4. July 20
Caucalis anthriscus fl.	July 13	
Flying ants ap.	July 13. Aug. 11	Aug. 20. Sept. 19
Moneywort (lysimachia nummularia) fl.	July 13	June 14. Aug. 16
Scarlet martagon (lilium chalcedonicum) fl.	July 14. Aug. 4	June 21. Aug. 6
Lesser stitchwort (stellaria graminea) fl.	July 14	May 8. June 23
Fool's parsley (æthusa cynapium) fl.	July 14	June 9. Aug. 9

	WHITE.	MARKWICK.
Dwarf elder (sambucus ebulus) fl.	July 14—29	
Swallows and martins congregate	July 14. Aug. 29	Aug. 12. Sept. 8
Potatoe (solanum tuberosum) fl.	July 14	June 3. July 12
Angelica sylv. fl.	July 15	
Digitalis ferrugin. fl.	July 15—25	
Ragwort (senecio jacobæa) fl.	July 15	June 22. July 13
Golden rod (solidago virgaurea) fl.	July 15	July 7. Aug. 29
Star thistle (centaurea calcitrapa) fl.	July 16	July 16. Aug. 16
Tree primrose (oenothera biennis) fl.	July 16	June 12. July 18
Peas (pisum sativum) cut	July 17. Aug 14.	July 13. Aug. 15
Galega officin. fl.	July 17	
Apricots (prunus armeniaca) ripe	July 17. Aug. 21	July. 5 Aug. 16
Clown's allheal (stachys palustris) fl.	July 17	June 12. July 14
Branching willow-herb (epilobium ramos.)fl.	July 17	
Rye harvest begins	July 17. Aug. 7	
Yellow centaury (chlora perfoliata) fl.	July 18. Aug. 15	June 15. Aug. 13
Yellow vetchling (lathyrus aphaca) fl.	July 18	
Enchanter's nightshade (circæa lutetiana) fl.	July 18	June 20. July 27
Water hemp agrimony (eupatorium cannabinum) fl.	July 18	July 4. Aug. 6
Giant throatwort (campanula trachelium) fl.	July 19	July 13. Aug. 14
Eyebright (euphrasia officinalis) fl.	July 19	May 28. July 29
Hops (humulus lupulus) fl.	July 19. Aug. 10	July 20. Aug. 17
Poultry moult	July 19	
Dodder (cuscuta europæa seu epithymum of Smith) fl.	July 20	July 9. Aug. 7
Lesser centaury (gentiana seu chironia centaurium of Smith) fl.	July 20	June 3. July 19
Creeping water parsnep (sium nodiflorum) fl.	July 20	July 10. Sept. 11
Common spurrey (spergula arvensis) fl.	July 21	April 10. July 16
Wild clover (trifolium pratense) fl.	July 21	May 2. June 7
Buckwheat (polygonum fagopyrum) fl.	July 21	June 27. July 10
Wheat harvest begins	July 21. Aug. 23	July 11. Aug. 26
Great bur-reed (sparganium erectum) fl.	July 22	June 10. July 23
Marsh St. John's-wort (hypericon elodes) fl.	July 22—31	June 16. Aug. 10
Sundew (drosera rotundifolia) fl.	July 22	Aug. 1.
Marsh cinquefoil (comarum palustre) fl.	July 22	May 27. July 12
Wild cherries ripe	July 22	
Lancashire asphodel (anthericum ossifragum) fl.	July 22	June 21. July 29
Hooded willow-herb (scutellaria galericulata) fl.	July 23	June 2. July 31
Water dropwort (oenanthe fistulosa) fl.	July 23	
Horehound (marrubium vulg.) fl.	July 23	
Seseli caruifolium fl.	July 24	
Water plantain (alisma plantago) fl.	July 24	May 31. July 21
Alopecurus myosuroides) fl.	July 25	
Virgin's bower (clematis vitalba) fl.	July 25. Aug. 9	July 13. Aug. 14
Bees kill the drones	July 25	
Teasel (dipsacus sylvestris) fl.	July 26	July 16. Aug. 3
Wild marjoram (origanum vulgare) fl.	July 26	July 17. Aug. 29
Swifts (hirundo apus) begin to depart	July 27—29	Aug. 5.
Small wild teasel (dipsacus pilosus) fl.	July 28, 29.	
Wood sage (teucrium scorodonia) fl.	July 28	June 17. July 24
Everlasting pea (lathyrus latifolius) fl.	July 28	June 20. July 30

	WHITE.	MARKWICK.
Trailing St. John's wort (hypericum humifusum) fl.	July 29	May 20. June 22
White hellebore (veratrum album) fl.	July 30	July 18—22
Camomile (anthemis nobilis) fl.	July 30	June 21. Aug. 20
Lesser field scabious (scabiosa columbaria) fl.	July 30	July 13. Aug. 9
Sun-flower (helianthus multiflorus) fl.	July 31. Aug. 6	July 4. Aug. 22
Yellow loosestrife (lysimachia vulgaris) fl.	July 31	July 2. Aug. 7
Swift (hirundo apus) last seen	July 31. Aug. 27	Aug. 11
Oats (avena sativa) cut	Aug. 1—16	July 26. Aug. 19
Barley (hordeum sativum) cut	Aug. 1—26	July 27. Sept. 4.
Lesser hooded willow-herb (scutellaria minor) fl.	Aug. 1	Aug. 8. Sept. 7
Middle fleabane (inula dysenterica) fl.	Aug. 2	July 7. Aug. 3
Apis manicata ap.	Aug. 2	
Swallow-tailed butterfly (papilio machaon) ap.	Aug. 2	April. 20. June 7,
Whame or burrel fly (oestrus bovis) lays eggs on horses	Aug. 3—19	[last seen Aug. 28
Sow-thistle (sonchus arvensis) fl.	Aug. 3	June 17. July 21
Plantain fritillary (papilio cinxia) ap.	Aug. 3	
Yellow succory (picris hieracioides) fl.	Aug. 4	June 6—25
Musca mystacea ap.		
Canterbury bells (campanula medium) fl.	Aug. 5	June 5. Aug. 11
Mentha longifol. fl.	Aug. 5	
Carline thistle (carlina vulgaris) fl.	Aug. 7	July 21. Aug. 18
Venetian sumach (rhus cotinus) fl.	Aug. 7	June 5 July 20
Ptinus pectinicornis ap.	Aug. 7	
Burdock (arctium lappa) fl.	Aug. 8	June 17. Aug. 4
Fell-wort (gentiana amarella) fl.	Aug. 8. Sept. 3.	
Wormwood (artemisia absinthium) fl.	Aug. 8	July 22. Aug. 21
Mugwort (artemisia vulgaris) fl.	Aug. 8	July 9. Aug. 10
St. Barnaby's thistle (centaurea solstit.) fl.	Aug. 10	
Meadow saffron (colchicum autumnale) fl.	Aug. 10. Sept. 13	Aug. 15. Sep. 29
Michaelmas daisy (aster tradescanti) fl.	Aug. 12. Sept. 27	Aug. 11. Oct. 8
Meadow rue (thalictrum flavum) fl.	Aug. 14	
Sea holly (eryngium marit.) fl.	Aug. 14	
China aster (aster chinensis) fl.	Aug. 14 Sept. 28	Aug. 6. Oct. 2
Boletus albus ap.	Aug. 14	May 10
Less Venus looking glass (campanula hybrida) fl.	Aug. 15	May 14
Carthamus tinctor. fl.	Aug. 15	
Goldfinch (fringilla carduelis) young broods ap.	Aug. 15	June 15
Lapwings (tringa vanellus) congregate	Aug. 15 Sept. 12	Sept. 25. Feb. 4
Black-eyed marble butterfly (papilio semele) ap.	Aug. 15	
Birds reassume their spring notes	Aug. 16	
Devil's bit (scabiosa succissa) fl.	Aug. 17	June 22. Aug. 23
Thistle down floats	Aug. 17. Sept. 10	
Ploughman's spikenard (conyza squarrosa) fl.	Aug. 18	
Autumnal dandelion (leontodon autumnale) fl.	Aug. 18	July 25
Flies abound in windows	Aug. 18	
Linnets (fringilla linota) congregate	Aug. 18. Nov. 1	Aug. 22. Nov. 8
Bulls make their shrill autumnal noise	Aug. 20	
Aster amellus fl.	Aug. 22	

	WHITE.	MARKWICK.
Balsam (impatiens balsamina) fl.	Aug. 23	May 22. July 26
Milk thistle (carduus marianus) fl.	Aug. 24	April 21. July 18
Hop picking begins	Aug. 24. Sept. 17	Sept. 1—15
Beech (fagus sylvatica) turns yellow	Aug. 24. Sept. 22	Sept. 5—29
Soapwort (saponaria officinalis) fl.	Aug. 25	July 19. Aug. 23
Ladies traces (ophrys spiralis) fl.	Aug. 27. Sept. 12	Aug. 18. Sept. 18
Small golden black-spotted butterfly (papilio phlœas) ap.	Aug. 29	
Swallow (hirundo rustica) sings	Aug. 29	April 11. Aug. 20
Althæa frutex (hibiscus syriacus) fl.	Aug. 30. Sept. 2	July 20. Sept. 28
Great fritillary (papilio paphia) ap.	Aug. 30	
Willow red under-wing moth (phalæna pacta) ap.	Aug. 31	
Stone curlew (otis oedicnemus) clamours	Sept. 1. Nov. 7	June 17
Phalæna russula ap.	Sept. 1	
Grapes ripen	Sept. 4. Oct. 24	Aug. 31. Nov. 4
Wood owls hoot	Sept. 4. Nov. 9	
Saffron butterfly (papilio hyale) ap.	Sept. 4	Aug. 5. Sept. 26
Ring ouzel appears on its autumnal visit	Sept. 4—30	
Flycatcher (muscicapa grisola) last seen	Sept. 6—29	Sept. 4—30
Beans (vicia faba) cut	Sept. 11	Aug. 9. Oct. 14
Ivy (hedera helix) fl.	Sept. 12. Oct. 2	Sept. 18. Oct. 28
Stares congregate	Sept. 12. Nov. 1	June 4. March 21
Wild honeysuckles fl. a second time	Sept. 25	
Woodlark sings	Sept. 28. Oct. 24	
Woodcock (scolopax rusticola) returns	Sept. 29. Nov. 11	Oct. 1. Nov. 1. young ones April 28, last seen April 11
Strawberry-tree (arbutus unedo) fl.	Oct. 1	May 21. Dec. 10
Wheat sown	Oct. 3. Nov. 9	Sept. 23. Oct. 19
Swallows last seen. (N.B. The house martin the latest.)	Oct. 4. Nov. 5	Nov. 16
Redwing (turdus iliacus) comes	Oct. 10. Nov. 10	Oct. 1. Dec. 18, sings Feb. 10. March 21, last seen April 13.
Fieldfare (turdus pilaris) returns	Oct. 12. Nov. 23	Oct. 13. Nov. 18, last seen May 1
Gossamer fills the air	Oct. 15—27	
Chinese holy-oak (alcea rosea) fl.	Oct. 19	July 7. Aug. 21
Hen chaffinches congregate	Oct. 20. Dec. 31	
Wood pigeons come	Oct. 23. Dec. 27	
Royston crow (corvus cornix) returns	Oct. 23. Nov. 29	Oct. 13. Nov. 17, [last seen April 15
Snipe (scolopax gallinago) returns	Oct. 25. Nov. 20	Sept. 29. Nov. 11,
Tortoise begins to bury himself	Oct. 27. Nov. 26	[last seen April 14
Rooks (corvus frugilegus) return to their nest trees	Oct. 31. Dec. 25	June 29. Oct. 20
Bucks grunt	Nov. 1	
Primrose (primula vulgaris) fl.	Nov. 10	Oct. 7. Dec. 30
Green whistling plover ap.	Nov. 13, 14	
Helvella mitra ap.	Nov. 16	
Greenfinches flock	Nov. 27	
Hepatica fl.	Nov. 30. Dec. 29	Feb. 19.
Furze (ulex europæus) fl.	Dec. 4—21	Dec. 16—31
Polyanthus (primula polyanthus) fl.	Dec. 7—16	Dec. 31
Young lambs dropped	Dec. 11—27	Dec. 12. Feb. 21
Moles work in throwing up hillocks	Dec. 12—23	

	WHITE.	MARKWICK.
Helleborus fœtidus fl.	Dec. 14—30	
Daisy (bellis perennis) fl.	Dec. 15	Dec. 26—31
Wall-flower (cheiranthus cheiri seu fruticulosus of Smith) fl.	Dec. 15	Nov. 5
Mezereon fl.	Dec. 15	
Snowdrop fl.	Dec. 20	

IN SESE VERTITUR ANNUS.

OBSERVATIONS

ON

VARIOUS PARTS OF NATURE.

FROM MR. WHITE'S MSS.

WITH REMARKS BY MR. MARKWICK.

OBSERVATIONS ON BIRDS.

BIRDS IN GENERAL.

In severe weather, fieldfares, red-wings, sky-larks, and tit-larks, resort to watered meadows for food; the latter wades up to its belly in pursuit of the pupæ of insects, and runs along upon the floating grass and weeds. Many gnats are on the snow near the water, these support the birds in part.

Birds are much influenced in their choice of food by colour, for though white currants are a much sweeter fruit than red, yet they seldom touch the former till they have devoured every bunch of the latter.

Red-starts, fly-catchers, and black-caps, arrive early in April. If these little delicate beings are birds of passage (as we have reason to suppose they are, because they are never seen in winter) how could they, feeble as they seem, bear up against such storms of snow and rain, and make their way through such meteorous turbulences, as one should suppose would embarrass and retard the most hardy and resolute of the winged nation? Yet they keep their appointed times and seasons; and in spite of frosts and winds return to their stations periodically, as if they had met with nothing to obstruct them. The withdrawing and appearance of the short winged summer birds is a very puzzling circumstance in natural history!

When the boys bring me wasps' nests, my bantam fowls fare deliciously, and when the combs are pulled to pieces, de-

vour the young wasps in their maggot state with the highest glee and delight. Any insect-eating bird would do the same; and therefore I have often wondered that the accurate Mr. Ray should call one species of buzzard *buteo apivorus sive vespivorus*, or the *honey buzzard*, because some combs of wasps happened to be found in one of their nests. The combs were conveyed thither doubtless for the sake of the maggots or nymphs, and not for their honey: since none is to be found in the combs of wasps. Birds of prey occasionally feed on insects; thus have I seen a tame kite picking up the female ants full of eggs with much satisfaction. WHITE.

That red-starts, fly-catchers, black-caps, and other slender-billed insectivorous small birds, particularly the swallow tribe, make their first appearance very early in the spring, is a well known fact; though the fly-catcher is the latest of them all in its visit (as this accurate naturalist observes in another place,) for it is never seen before the month of May. If these delicate creatures come to us from a distant country, they will probably be exposed in their passage, as Mr. White justly remarks, to much greater difficulties from storms and tempests than their feeble powers appear to be able to surmount: on the other hand, if we suppose them to pass the winter in a dormant state in this country concealed in caverns or other hiding places sufficiently guarded from the extreme cold of our winter to preserve their life, and that at the approach of spring they revive from their torpid state and reassume their usual powers of action, it will entirely remove the first difficulty, arising from the storms and tempests they are liable to meet with in their passage; but how are we to get over the still greater difficulty of their revivication from their torpid state? What degree of warmth in the temperature of the air is necessary to produce that effect, and how it operates on the functions of animal life, are questions not easily answered.

How could Mr. White suppose that Ray named this species the honey buzzard because it fed on honey, when he not only named it in Latin *buteo apivorus et vespivorus*, but expressly

says that "it feeds on insects, and brings up its young with the maggots or nymphs of wasps?"

That birds of prey, when in want of their proper food, flesh, sometimes feed on insects I have little doubt, and think I have observed the common buzzard, falco buteo, to settle on the ground and pick up insects of some kind or other. MARKWICK.

ROOKS.

Rooks are continually fighting and pulling each others' nests to pieces: these proceedings are inconsistent with living in such close community. And yet if a pair offer to build on a single tree, the nest is plundered and demolished at once. Some rooks roost on their nest trees. The twigs which the rooks drop in building supply the poor with brushwood to light their fires. Some unhappy pairs are not permitted to finish any nest till the rest have completed their building. As soon as they get a few sticks together, a party comes and demolishes the whole. As soon as rooks have finished their nests, and before they lay, the cocks begin to feed the hens, who receive their bounty with a fondling tremulous voice and fluttering wings, and all the little blandishments that are expressed by the young, while in a helpless state. This gallant deportment of the males is continued throughout the whole season of incubation. These birds do not copulate on trees, nor in their nests, but on the ground in the open fields. WHITE.

After the first brood of rooks are sufficiently fledged, they all leave their nest trees in the day-time, and resort to some distant place in search of food, but return regularly every evening, in vast flights, to their nest trees, where, after flying round several times with much noise and clamour, till they are all assembled together, they take up their abode for the night. MARKWICK.

THRUSHES.

Thrushes during long droughts are of great service in hunting out shell snails, which they pull in pieces for their young, and are therefore very serviceable in gardens *. Missel thrushes do not destroy the fruit in gardens like the other species of turdi, but feed on the berries of misseltoe, and in the spring on ivy berries, which then begin to ripen. In the summer, when their young become fledged, they leave neighbourhoods, and retire to sheep walks and wild commons.

The magpies, when they have young, destroy the broods of missel thrushes, though the dams are fierce birds, and fight boldly in defence of their nests. It is probably to avoid such insults, that this species of thrush, though wild at other times, delights to build near houses, and in frequented walks and gardens. WHITE.

Of the truth of this I have been an eye-witness, having seen the common thrush feeding on the shell snail.

In the very early part of this spring (1797) a bird of this species used to sit every morning on the top of some high elms close by my windows, and delight me with its charming

* [The fondness of thrushes for snails, not merely for feeding their young, but as their ordinary aliment, is well known, and renders them most useful tenants of the garden. I have often watched them breaking the shells, and then picking out the animals. The bird seizes the shell by the margin of the mouth, then knocks it against a stone, often selecting a particular stone for repeated use, so that sometimes the remains of a considerable number of shells are found, the occupants of which have been immolated on one stone of sacrifice. I once saw the broken fragments of upwards of fifty shells of *Helix aspersa* and *H. nemoralis* within the space of little more than a square yard of a brick path in the garden. It occasionally happens that the bird is disturbed when in the act of breaking the shell; and if the injury is confined to a small fracture, and within reach of the "cloak" or shell-secreting organ, it is beautifully repaired. I possess several specimens which have been thus effectually and neatly patched.—T. B.]

song, attracted thither, probably, by some ripe ivy berries that grew near the place.

I have remarked something like the latter fact, for I remember, many years ago, seeing a pair of these birds fly up repeatedly and attack some larger bird, which I suppose disturbed their nest in my orchard, uttering at the same time violent shrieks. Since writing the above, I have seen more than once a pair of these birds attack some magpies that had disturbed their nest, with great violence and loud shrieks. MARKWICK.

POULTRY*.

Many creatures are endowed with a ready discernment to see what will turn to their own advantage and emolument; and often discover more sagacity than could be expected. Thus my neighbour's poultry watch for waggons loaded with wheat, and running after them pick up a number of grains which are shaken from the sheaves by the agitation of the carriages. Thus, when my brother used to take down his gun to shoot sparrows, his cats would run out before him, to be ready to catch up the birds as they fell.

The earnest and early propensity of the gallinæ to roost on high is very observable; and discovers a strong dread impressed on their spirits respecting vermin that may annoy them on the ground during the hours of darkness. Hence

* [It will not, perhaps, be out of place here to mention a curious fact showing the power possessed by some domestic poultry of detecting the presence of putridity in eggs, and their intolerance of such in the nest. A Muscovy duck in my poultry-yard was sitting upon a large number of eggs, I believe 21. She every morning left the nest to take her bath, leaving the eggs carefully covered. One morning, on returning to the nest, she removed the covering of feathers and down as usual, and then appeared to examine every egg in succession by passing her beak over it, and at length paused at one egg, carried it a couple of yards from the nest, broke it by a sharp stroke with her beak, and then returned to her duties of incubation. The egg was addled and fetid. My coachman and myself watched this singular example of special instinct.—T. B.]

poultry, if left to themselves and not housed, will perch the winter through on yew-trees and fir-trees; and turkies and guinea fowls, heavy as they are, get up into apple trees; pheasants also in woods sleep on trees to avoid foxes; while pea-fowls climb to the tops of the highest trees round their owner's house for security, let the weather be ever so cold or blowing. Partridges, it is true, roost on the ground, not having the faculty of perching; but then the same fear prevails in their minds; for through apprehensions from pole-cats and stoats, they never trust themselves to coverts, but nestle together in the midst of large fields, far removed from hedges and coppices, which they love to haunt in the day, and where at that season they can sculk more secure from the ravages of rapacious birds.

As to ducks and geese, their awkward splay web-feet forbid them to settle on trees; they therefore, in the hours of darkness and danger, betake themselves to their own element the water, where, amidst large lakes and pools, like ships riding at anchor, they float the whole night long in peace and security. WHITE.

Guinea fowls not only roost on high, but in hard weather resort, even in the day-time, to the very tops of the highest trees. Last winter, when the ground was covered with snow, I discovered all my guinea fowls, in the middle of the day, sitting on the highest boughs of some very tall elms, chattering and making a great clamour: I ordered them to be driven down lest they should be frozen to death in so elevated a situation, but this was not effected without much difficulty, they being very unwilling to quit their lofty abode, notwithstanding one of them had its feet so much frozen that we were obliged to kill it. I know not how to account for this, unless it was occasioned by their aversion to the snow on the ground, they being birds that come originally from a hot climate.

Notwithstanding the awkward splay web-feet (as Mr. White calls them) of the duck genus, some of the foreign species have the power of settling on the boughs of trees apparently with great ease; an instance of which I have seen in the earl

of Ashburnham's menagerie, where the summer duck, anas sponsa, flew up and settled on the branch of an oak-tree in my presence; but whether any of them roost on trees in the night, we are not informed by any author that I am acquainted with. I suppose not, but that, like the rest of the genus, they sleep on the water, where the birds of this genus are not always perfectly secure, as will appear from the following circumstance which happened in this neighbourhood a few years since, as I was credibly informed. A female fox was found in the morning drowned in the same pond in which were several geese, and it was supposed that in the night the fox swam into the pond to devour the geese, but was attacked by the gander, which being most powerful in its own element, buffeted the fox with its wings about the head till it was drowned. MARKWICK.

HEN PARTRIDGE.

A hen partridge came out of a ditch, and ran along shivering with her wings, and crying out as if wounded and unable to get from us. While the dam acted this distress, the boy who attended me saw her brood, that was small and unable to fly, run for shelter into an old fox-earth under the bank. So wonderful a power is instinct. WHITE.

It is not uncommon to see an old partridge feign itself wounded and run along on the ground fluttering and crying before either dog or man, to draw them away from its helpless unfledged young ones. I have seen it often, and once in particular I saw a remarkable instance of the old bird's solicitude to save its brood. As I was hunting a young pointer, the dog ran on a brood of very small partridges; the old bird cried, fluttered, and ran tumbling along just before the dog's nose till she had drawn him to a considerable distance, when she took wing and flew still farther off, but not out of the field: on this the dog returned to me, near which place the young ones lay concealed in the grass, which the old

bird no sooner perceived than she flew back again to us, settled just before the dog's nose again, and by rolling and tumbling about drew off his attention from her young, and thus preserved her brood a second time. I have also seen, when a kite has been hovering over a covey of young partridges, the old birds fly up at the bird of prey, screaming and fighting with all their might to preserve their brood.

MARKWICK.

A HYBRID PHEASANT.

Lord Stawell sent me from the great lodge in the Holt a curious bird for my inspection. It was found by the spaniels of one of his keepers in a coppice, and shot on the wing. The shape, air, and habit of the bird, and the scarlet ring round the eyes, agreed well with the appearance of a cock pheasant: but then the head and neck, and breast and belly were of a glossy black: and though it weighed three pounds three ounces and a half,[a] the weight of a large full-grown cock pheasant, yet there were no signs of any spurs on the legs, as is usual with all grown cock-pheasants, who have long ones. The legs and feet were naked of feathers, and therefore it could be nothing of the grous kind. In the tail were no long bending feathers, such as cock pheasants usually have, and are characteristic of the sex. The tail was much shorter than the tail of a hen pheasant, and blunt and square at the end. The back, wing feathers, and tail, were all of a pale russet curiously streaked, somewhat like the upper parts of a hen partridge. I returned it with my verdict, that it was probably a spurious or hybrid hen bird, bred between a cock pheasant and some domestic fowl. When I came to talk with the keeper who brought it, he told me that some pea-hens had been known last summer to haunt the coppices and coverts where this mule was found.

Mr. Elmer, of Farnham, the famous game painter, was employed to take an exact copy of this curious bird.

[a] Hen pheasants usually weigh only two pounds ten ounces.

N. B. It ought to be mentioned, that some good judges have imagined this bird to have been a stray grous or black-cock; it is however to be observed, that Mr. W. remarks, that its legs and feet were naked, whereas those of the grous are feathered to the toes. WHITE *.

Mr. Latham observes that "pea-hens, after they have done laying, sometimes assume the plumage of the male bird," and has given a figure of the male-feathered pea-hen now to be seen in the Leverian Museum; and M. Salerne remarks, that "the hen pheasant, when she has done laying and sitting, will get the plumage of the male." May not this hybrid pheasant (as Mr. White calls it) be a bird of this kind? that is, an old hen pheasant which had just begun to assume the plumage of the cock. MARKWICK.

LAND-RAIL.

A man brought me a land-rail or daker-hen, a bird so rare in this district that we seldom see more than one or two in a season, and those only in autumn. This is deemed a bird of passage by all the writers: yet from its formation seems to be poorly qualified for migration; for its wings are short, and placed so forward, and out of the centre of gravity, that it flies in a very heavy and embarrassed manner, with its legs hanging down; and can hardly be sprung a second time, as it runs very fast, and seems to depend more on the swiftness of its feet than on its flying.

When we came to draw it, we found the entrails so soft and tender, that in appearance they might have been dressed like the ropes of a woodcock. The craw or crop was small and

* [There can now be no doubt that this bird was a hybrid between the black-cock and the pheasant. The coloured engraving in some of the early editions gives a very erroneous idea of the bird, and is a wretched copy from Elmer's clever painting, mentioned by Gilbert White, which was given to him by Lord Stawell, and has been for many years in my possession.—T. B.]

lank, containing a mucus; the gizzard thick and strong, and filled with small shell snails, some whole, and many ground to pieces through the attrition which is occasioned by the muscular force and motion of that intestine. We saw no gravels among the food: perhaps the shell snails might perform the functions of gravels or pebbles, and might grind one another. Land-rails used to abound formerly, I remember, in the low wet bean fields of Christian Malford in North Wilts, and in the meadows near Paradise Gardens at Oxford, where I have often heard them cry crex, crex. The bird mentioned above weighed 7½ oz. was fat and tender, and in flavour like the flesh of a woodcock. The liver was very large and delicate. WHITE.

Land-rails are more plentiful with us than in the neighbourhood of Selborne. I have found four brace in an afternoon, and a friend of mine lately shot nine in two adjoining fields; but I never saw them in any other season than the autumn.

That it is a bird of passage there can be little doubt, though Mr. White thinks it poorly qualified for migration, on account of the wings being short and not placed in the exact centre of gravity: how that may be I cannot say, but I know that its heavy sluggish flight is not owing to its inability of flying faster, for I have seen it fly very swiftly, although in general its actions are sluggish. Its unwillingness to rise proceeds, I imagine, from its sluggish disposition, and its great timidity, for it will sometimes squat so close to the ground as to suffer itself to be taken up by the hand, rather than rise; and yet it will at times run very fast.

What Mr. White remarks respecting the small shell snails found in its gizzard, confirms my opinion, that it frequents corn-fields, seed clover, and brakes or fern, more for the sake of snails, slugs, and other insects which abound in such places, than for the grain or seeds; and that it is entirely an insectivorous bird. MARKWICK.

FOOD OF THE RING-DOVE.

One of my neighbours shot a ring-dove on an evening as it was returning from feed and going to roost. When his wife had picked and drawn it, she found its craw stuffed with the most nice and tender tops of turnips. These she washed and boiled, and so sat down to a choice and delicate plate of greens, culled and provided in this extraordinary manner.

Hence we may see that graminivorous birds, when grain fails, can subsist on the leaves of vegetables. There is reason to suppose that they would not long be healthy without; for turkies, though corn fed, delight in a variety of plants, such as cabbage, lettuce, endive, &c. and poultry pick much grass; while geese live for months together on commons by grazing alone.

"Nought is useless made; — — —
"— — — — On the barren heath
"The shepherd tends his flock that daily crop
"Their verdant dinner from the mossy turf
"Sufficient: after them the cackling *goose*,
"Close-grazer, finds wherewith to ease her want."

PHILIPS'S CYDER.

WHITE.

That many graminivorous birds feed also on the herbage or leaves of plants, there can be no doubt: partridges and larks frequently feed on the green leaves of turnips, which gives a peculiar flavour to their flesh, that is, to me, very palatable: the flavour also of wild ducks and geese greatly depends on the nature of their food; and their flesh frequently contracts a rank unpleasant taste, from their having lately fed on strong marshy aquatic plants, as I suppose.

That the leaves of vegetables are wholesome and conducive to the health of birds, seems probable, for many people fat their ducks and turkies with the leaves of lettuce chopped small. MARKWICK.

HEN HARRIER.

A neighbouring gentleman sprung a pheasant in a wheat stubble, and shot at it; when, notwithstanding the report of the gun, it was immediately pursued by the blue hawk, known by the name of the hen-harrier, but escaped into some covert. He then sprung a second, and a third, in the same field, that got away in the same manner; the hawk hovering round him all the while that he was beating the field, conscious no doubt of the game that lurked in the stubble*. Hence we may conclude that this bird of prey was rendered very daring and bold by hunger, and that hawks cannot always seize their game when they please. We may farther observe, that they cannot pounce their quarry on the ground, where it might be able to make a stout resistance, since so large a fowl as a pheasant could not but be visible to the piercing eye of a hawk, when hovering over the field. Hence that propensity of cowring and squatting till they are almost trod on, which no doubt was intended as a mode of security: though long rendered destructive to the whole race of gallinæ by the invention of nets and guns. WHITE.

Of the great boldness and rapacity of birds of prey, when urged on by hunger, I have seen several instances; particularly, when shooting in the winter in company with two friends, a woodcock flew across us closely pursued by a small hawk; we all three fired at the woodcock instead of the hawk, which, notwithstanding the report of three guns close by it, continued its pursuit of the woodcock, struck it down, and carried it off, as we afterwards discovered.

At another time, when partridge-shooting with a friend, we

* [Professor Newton has favoured me with the following note on this passage:—"I think White must have been misinformed as to the species of Hawk which performed this feat. Its actions as described are exactly those of a Falcon, and do not agree with any thing that has been observed in a Harrier; so that I have little doubt that the 'blue hawk' was an adult Peregrine Falcon."—T. B.]

saw a ring-tail hawk rise out of a pit with some large bird in its claws; though at a great distance, we both fired and obliged it to drop its prey, which proved to be one of the partridges which we were in pursuit of; and lastly, in an evening, I shot at and plainly saw that I had wounded a partridge, but it being late was obliged to go home without finding it again. The next morning I walked round my land without any gun, but a favourite old spaniel followed my heels. When I came near the field where I wounded the bird the evening before, I heard the partridges call, and seeming to be much disturbed. On my approaching the bar-way they all rose, some on my right and some on my left hand; and just before and over my head, I perceived (though indistinctly, from the extreme velocity of their motion) two birds fly directly against each other, when instantly, to my great astonishment, down dropped a partridge at my feet: the dog immediately seized it, and on examination I found the blood flow very fast from a fresh wound in the head, but there was some dry clotted blood on its wings and side; whence I concluded that a hawk had singled out my wounded bird as the object of his prey, and had struck it down the instant that my approach had obliged the birds to rise on the wing; but the space between the hedges was so small, and the motion of the birds so instantaneous and quick, that I could not distinctly observe the operation. MARKWICK.

GREAT SPECKLED DIVER, OR LOON*.

As one of my neighbours was traversing Wolmer forest from Bramshot across the moors, he found a large uncommon bird fluttering in the heath, but not wounded, which he brought home alive. On examination it proved to be *colymbus glacialis Linn.* the great speckled diver or loon, which is most excellently described in Willughby's Ornithology.

* [This is not the only instance of the occurrence of this bird at Wolmer. A specimen was brought to me many years since, and is now in the museum at Alton.—T. B.]

Every part and proportion of this bird is so incomparably adapted to this mode of life, that in no instance do we see the wisdom of God in the creation to more advantage. The head is sharp and smaller than the part of the neck adjoining, in order that it may pierce the water; the wings are placed forward and out of the centre of gravity for a purpose which shall be noticed hereafter; the thighs quite at the podex, in order to facilitate diving; and the legs are flat, and as sharp backwards almost as the edge of a knife, that in striking they may easily cut the water: while the feet are palmated, and broad for swimming, yet so folded up when advanced forward to take a fresh stroke, as to be full as narrow as the shank. The two exterior toes of the feet are longest; the nails flat and broad, resembling the human, which give strength and increase the power of swimming. The foot, when expanded, is not at right angles to the leg or body of the bird: but the exterior part inclining towards the head forms an acute angle with the body; the intention being not to give motion in the line of the legs themselves, but by the combined impulse of both in an intermediate line, the line of the body.

Most people know, that have observed at all, that the swimming of birds is nothing more than a walking in the water, where one foot succeeds the other as on the land; yet no one, as far as I am aware, has remarked that diving fowls, while under water, impel and row themselves forward by a motion of their wings, as well as by the impulse of their feet: but such is really the case, as any person may easily be convinced, who will observe ducks when hunted by dogs in a clear pond. Nor do I know that any one has given a reason why the wings of diving fowls are placed so forward: doubtless, not for the purpose of promoting their speed in flying, since that position certainly impedes it; but probably for the increase of their motion under water, by the use of four oars instead of two; yet were the wings and feet nearer together, as in land-birds, they would, when in action, rather hinder than assist one another.

This colymbus was of considerable bulk, weighing only three drachms short of three pounds avoirdupois. It mea-

sured in length from the bill to the tail (which was very short) two feet, and to the extremities of the toes, four inches more; and the breadth of the wings expanded was 42 inches. A person attempted to eat the body, but found it very strong and rancid, as is the flesh of all birds living on fish. Divers or loons, though bred in the most northerly parts of Europe, yet are seen with us in very severe winters; and on the Thames are called sprat loons, because they prey much on that sort of fish.

The legs of the *colymbi* and *mergi* are placed so very backward, and so out of all centre of gravity, that these birds cannot walk at all. They are called by Linnæus *compedes*, because they move on the ground as if shackled or fettered. WHITE.

These accurate and ingenious observations, tending to set forth in a proper light the wonderful works of God in the creation, and to point out his wisdom in adapting the singular form and position of the limbs of this bird to the particular mode in which it is destined to pass the greater part of it's life in an element much denser than the air, do Mr. White credit, not only as a naturalist, but as a man and as a philosopher, in the truest sense of the word, in my opinion; for were we enabled to trace the works of nature minutely and accurately, we should find, not only that every bird, but every creature, was equally well adapted to the purpose for which it was intended; though this fitness and propriety of form is more striking in such animals as are destined to any uncommon mode of life.

I have had in my possession two birds, which, though of a different genus, bear a great resemblance to Mr. White's Colymbus, in their manner of life, which is spent chiefly in the water, where they swim and dive with astonishing rapidity, for which purpose their fin-toed feet, placed far behind, and very short wings, are particularly well adapted, and shew the wisdom of God in the creation as conspicuously as the bird beforementioned. These birds were the greater and lesser crested grebe, *podiceps cristatus et auritus*. What

surprised me most was, that the first of these birds was found alive on dry ground, about seven miles from the sea, to which place there was no communication by water. How did it get so far from the sea? its wings and legs being so ill adapted either to flying or walking *. The lesser crested grebe was also found in a fresh water pond which had no communication with other water, at some miles distance from the sea. MARKWICK.

STONE CURLEW.

On the 27th of February 1788, Stone Curlews were heard to pipe; and on March 1st, after it was dark, some were passing over the village, as might be perceived by their quick short note, which they use in their nocturnal excursions by way of watch-word, that they may not stray and lose their companions.

Thus, we see, that retire whithersoever they may in the winter, they return again early in the spring, and are, as it now appears, the first summer birds that come back. Perhaps the mildness of the season may have quickened the emigration of the curlews this year.

They spend the day in high elevated fields and sheep-walks; but seem to descend in the night to streams and meadows, perhaps for water, which their upland haunts do not afford them. WHITE.

On the 31st of January 1792 I received a bird of this species which had been recently killed by a neighbouring farmer, who said that he had frequently seen it in his fields during the former part of the winter; this perhaps was an occasional straggler, which, by some accident, was prevented from accompanying its companions in their migration. MARKWICK.

* ["This assertion is unfortunate. Grebes are strong flyers, and commonly mount to a great height."—A. N. Markwick's observations in general are so commonplace or incorrect that they are now hardly worth perpetuating, were they not sanctioned by repeated association with those of White.—T. B.]

THE SMALLEST UNCRESTED WILLOW WREN.

The smallest uncrested willow wren, or chiff chaf, is the next early summer bird which we have remarked; it utters two sharp piercing notes. so loud in hollow woods, as to occasion an echo, and is usually first heard about the 20th of March. WHITE.

This bird which Mr. White calls the smallest willow wren or chiff chaf, makes its appearance very early in the spring, and is very common with us; but I cannot make out the three different species of willow wrens which he assures us he has discovered. Ever since the publication of his History of Selborne I have used my utmost endeavours to discover his three birds, but hitherto without success. I have frequently shot the bird which "haunts only the tops of trees "and makes a sibilous noise," even in the very act of uttering that sibilous note, but it always proved to be the common willow wren or his chiff chaf. In short, I never could discover more than one species, unless my greater pettychaps, *sylvia hortensis* of Latham, is his greatest willow wren*. MARKWICK.

FERN OWL, OR GOAT SUCKER.

The country people have a notion that the fern owl, or churn owl, or eve-jarr, which they also call a puckeridge, is very injurious to weanling calves, by inflicting, as it strikes at them, the fatal distemper known to cow-leeches by the name of puckeridge. Thus does this harmless ill-fated bird fall under a double imputation which it by no means deserves —in Italy, of sucking the teats of goats, whence it is called

* [" Mr. Markwick's experience could not have been great, or he was always the victim of a mistake. The accuracy of White's observations and discrimination of the three species of Willow-wren is beyond all question."—A. N.]

caprimulgus; and with us, of communicating a deadly disorder to cattle. But the truth of the matter is, the malady above mentioned is occasioned by the *œstrus bovis*, a dipterous insect, which lays its eggs along the chines of kine, where the maggots, when hatched, eat their way through the hide of the beast into the flesh, and grow to a very large size. I have just talked with a man, who says, he has more than once stripped calves who have died of the puckeridge; that the ail or complaint lay along the chine, where the flesh was much swelled, and filled with purulent matter. Once I myself saw a large rough maggot of this sort squeezed out of the back of a cow.

These maggots in Essex are called wornils.

The least observation and attention would convince men, that these birds neither injure the goatherd nor the grazier, but are perfectly harmless, and subsist alone, being night birds, on night insects, such as *scarabæi*, and *phalænæ;* and through the month of July mostly on the *scarabæus solstitialis*, which in many districts abounds at that season. Those that we have opened, have always had their craws stuffed with large night moths and their eggs, and pieces of chaffers: nor does it anywise appear how they can, weak and unarmed as they seem, inflict any harm upon kine, unless they possess the powers of animal magnetism, and can affect them by fluttering over them.

A fern owl, this evening (August 27) showed off in a very unusual and entertaining manner, by hawking round and round the circumference of my great spreading oak for twenty times following, keeping mostly close to the grass, but occasionally glancing up amidst the boughs of the tree. This amusing bird was then in pursuit of a brood of some particular phalæna belonging to the oak, of which there are several sorts; and exhibited on the occasion a command of wing superior, I think, to that of the swallow itself.

When a person approaches the haunt of fern owls in an evening, they continue flying round the head of the obtruder; and by striking their wings together above their backs, in the manner that the pigeons called smiters are known to do, make

a smart snap: perhaps at that time they are jealous for their young; and their noise and gesture are intended by way of menace.

Fern-owls have attachment to oaks, no doubt on account of food; for the next evening we saw one again several times among the boughs of the same tree; but it did not skim round its stem over the grass, as on the evening before. In May these birds find the *scarabæus melontha* on the oak; and the *scarabæus solstitialis* at midsummer. These peculiar birds can only be watched and observed for two hours in the twenty-four: and then in a dubious twilight an hour after sun-set and an hour before sun-rise.

On this day (July 14, 1789) a woman brought me two eggs of a fern-owl or evejarr, which she found on the verge of the Hanger, to the left of the hermitage under a beechen shrub. This person, who lives just at the foot of the Hanger, seems well acquainted with these nocturnal swallows, and says she has often found their eggs near that place, and that they lay only two at a time on the bare ground. The eggs were oblong, dusky, and streaked somewhat in the manner of the plumage of the parent bird, and were equal in size at each end. The dam was sitting on the eggs when found, which contained the rudiments of young, and would have been hatched perhaps in a week. From hence we may see the time of their breeding, which corresponds pretty well with that of the swift, as does also the period of their arrival. Each species is usually seen about the beginning of May. Each breeds but once in a summer; each lays only two eggs.

July 4, 1790. The woman who brought me two fern-owl's eggs last year on July 14, on this day produced me two more, one of which had been laid this morning, as appears plainly, because there was only one in the nest the evening before. They were found, as last July, on the verge of the down above the hermitage under a beechen shrub, on the naked ground. Last year those eggs were full of young, and just ready to be hatched.

These circumstances point out the exact time when these curious nocturnal migratory birds lay their eggs and hatch

their young. Fern-owls, like snipes, stone curlews, and some other birds, make no nest. Birds that build on the ground do not make much of nests. WHITE.

No author that I am acquainted with has given so accurate and pleasing an account of the manners and habits of the goat-sucker as Mr. White, taken entirely from his own observations. Its being a nocturnal bird, has prevented my having many opportunities of observing it. I suspect that it passes the day in concealment amidst the dark and shady gloom of deep-wooded dells, or as they are called here gills; having more than once seen it roused from such solitary places by my dogs, when shooting in the day-time. I have also sometimes seen it in an evening, but not long enough to take notice of its habits and manners. I have never seen it but in the summer, between the months of May and September. MARKWICK.

SAND MARTINS.

March 23, 1788. A gentleman, who was this week on a visit at Waverley, took the opportunity of examining some of the holes in the sand banks with which that district abounds. As these are undoubtedly bored by bank martins, and are the places where they avowedly breed, he was in hopes they might have slept there also, and that he might have surprised them just as they were awaking from their winter slumbers. When he had dug for some time, he found the holes were horizontal and serpentine, as I had observed before: and that the nests were deposited at the inner end, and had been occupied by broods in former summers, but no torpid birds were to be found. He opened and examined about a dozen holes. Another gentleman made the same search many years ago, with as little success.

These holes were in depth about two feet.

March 21, 1700. A single bank or sand martin was seen hovering and playing round the sand pit at Short Heath, where in the summer they abound.

April 9, 1793. A sober hind assures us, that this day, on Wish-hanger common between Hedleigh and Frinsham, he saw several bank-martins playing in and out, and hanging before some nest holes in a sand-hill, where these birds usually nestle.

This incident confirms my suspicions that this species of hirundo is to be seen first of any; and gives great reason to suppose that they do not leave their wild haunts at all, but are secreted amidst the clefts and caverns of those abrupt cliffs where they usually spend their summers.

The late severe weather considered, it is not very probable that these birds should have migrated so early from a tropical region, through all these cutting winds and pinching frosts: but it is easy to suppose that they may, like bats and flies, have been awakened by the influence of the sun, amidst their secret latebræ, where they have spent the uncomfortable foodless months in a torpid state, and the profoundest of slumbers.

There is a large pond at Wish-hanger, which induces these sand-martins to frequent that district. For I have ever remarked that they haunt near great waters, either rivers or lakes. WHITE.

Here, and in many other paseages of his writings, this very ingenious Naturalist favours the opinion that part at least of the swallow tribe pass their winter in a torpid state in the same manner as bats and flies, and revive again on the approach of spring.

I have frequently taken notice of all these circumstances, which induced Mr. White to suppose that some of the hirundines lie torpid during winter. I have seen, so late as November, on a finer day than usual at that season of the year, two or three swallows flying backwards and forwards under a warm hedge, or on the sunny side of some old building; nay I once saw on the 8th of December two martins flying about very briskly, the weather being mild. I had not seen any considerable number either of swallows or martins for a considerable time before; from whence then could these birds come, if

not from some hole or cavern where they had laid themselves up for the winter? Surely it will not be asserted that these birds migrate back again from some distant tropical region, merely on the appearance of a fine day or two at this late season of the year. Again, very early in the spring, and sometimes immediately after very cold severe weather, on its growing a little warmer, a few of these birds suddenly make their appearance, long before the generality of them are seen. These appearances certainly favour the opinion of their passing the winter in a torpid state, but do not absolutely prove the fact; for who ever saw them reviving of their own accord from their torpid state, without being first brought to the fire, and as it were, forced into life again; soon after which revivification they constantly die. MARKWICK.

SWALLOWS, CONGREGATING AND DISAPPEARANCE OF.

During the severe winds that often prevail late in the spring, it is not easy to say how the hirundines subsist: for they withdraw themselves, and are hardly ever seen, nor do any insects appear for their support. That they can retire to rest, and sleep away these uncomfortable periods, as bats do, is a matter rather to be suspected than proved: or do they not rather spend their time in deep and sheltered vales near waters, where insects are more likely to be found? Certain it is, that hardly any individuals of this genus have at such times been seen for several days together.

September 13, 1791. The congregating flocks of hirundines on the church and tower are very beautiful and amusing! When they fly off together from the roof, on any alarm, they quite swarm the air. But they soon settle in heaps, and preening their feathers, and lifting up their wings to admit the sun, seem highly to enjoy the warm situation. Thus they spend the heat of the day, preparing for their emigration, and, as it were, consulting when and where they are to go. The flight about the church seems to consist chiefly of house mar-

tins, about 400 in number: but there are other places of rendezvous about the village frequented at the same time.

It is remarkable, that though most of them sit on the battlements and roof, yet many hang or cling for some time by their claws against the surface of the walls, in a manner not practised by them at any other time of their remaining with us.

The swallows seem to delight more in holding their assemblies on trees.

November 3, 1789. Two swallows were seen this morning at Newton vicarage-house, hovering and settling on the roofs and out-buildings. None have been observed at Selborne since October 11. It is very remarkable, that after the hirundines have disappeared for some weeks, a few are occasionally seen again: sometimes, in the first week in November, and that only for one day. Do they not withdraw and slumber in some hiding place during the interval? for we cannot suppose they had migrated to warmer climes and so returned again for one day. Is it not more probable that they are awakened from sleep, and like the bats are come forth to collect a little food? Bats appear at all seasons through the autumn and spring months, when the thermometer is at 50, because then phalænæ and moths are stirring.

These swallows looked like young ones. WHITE.

Of their migration the proofs are such as will scarcely admit of a doubt. Sir Charles Wager and Captain Wright saw vast flocks of them at sea, when on their passage from one country to another. Our author, Mr. White, saw what he deemed the actual migration of these birds, and which he has described at p. 65 of his History of Selborne; and of their congregating together on the roofs of churches and other buildings, and on trees, previous to their departure, many instances occur; particularly I once observed a large flock of house-martins on the roof of the church here at Catsfield, which acted exactly in the manner here described by Mr. White, sometimes preening their feathers and spreading their wings to the sun, and then flying off all together, but soon returning to their former

situation. The greatest part of these birds seemed to be young ones. MARKWICK.

WAGTAILS.

While the cows are feeding in the moist low pastures, broods of wagtails, white and grey, run round them, close up to their noses, and under their very bellies, availing themselves of the flies that settle on their legs, and probably finding worms and *larvæ* that are roused by the trampling of their feet. Nature is such an œconomist, that the most incongrous animals can avail themselves of each other!

Interest makes strange friendships. WHITE.

Birds continually avail themselves of particular and unusual circumstances to procure their food; thus wagtails keep playing about the noses and legs of cattle as they feed, in quest of flies and other insects which abound near those animals; and great numbers of them will follow close to the plough to devour the worms, &c. that are turned up by that instrument. The red-breast attends the gardener when digging his borders; and will, with great familiarity and tameness, pick out the worms, almost close to his spade, as I have frequently seen. Starlings and magpies very often sit on the backs of sheep and deer to pick out their ticks. MARKWICK.

WRYNECK.

These birds appear on the grass-plots and walks; they walk a little as well as hop, and thrust their bills into the turf, in quest, I conclude, of ants, which are their food. While they hold their bills in the grass, they draw out their prey with their tongues, which are so long as to be coiled round their heads. WHITE.

GROSBEAK.

Mr. B. shot a cock grosbeak which he had observed to

haunt his garden for more more than a fortnight. I began to accuse this bird of making sad havock among the buds of the cherries, gooseberries, and wall-fruit of the neighbouring orchards. Upon opening its crop or craw, no buds were to be seen; but a mass of kernels of the stones of fruits. Mr. B. observed that this bird frequented the spot where plum-trees grow; and that he had seen it with somewhat hard in its mouth, which it broke with difficulty; these were the stones of damsons. The latin ornithologists call this bird *coccothraustes*, i. e. berry-breaker, because with its large horny beak it cracks and breaks the shells of stone fruits for the sake of the seed or kernel. Birds of this sort are rarely seen in England, and only in winter *. WHITE.

I have never seen this rare bird but during the severest cold of the hardest winters; at which season of the year I have had in my possession two or three that were killed in this neighbourhood in different years. MARKWICK.

* [It is a mistake to suppose that the Grossbeak, or Hawfinch, is only seen in the depth of winter. On the 17th of August, 1859, I picked up on my lawn the wing and some feathers of one which doubtless had been killed by a cat. On the 8th of April, 1867, I saw a pair of them fly across the lawn into an *Abies Douglasii*. Nor is the occurrence of this bird in Selborne and the neighbourhood a very rare circumstance. A neighbour has two of them stuffed, both of which were killed in my grounds, and a fine female was found dead on the lawn behind my house in January 1871, probably killed by the intense cold, the thermometer having fallen on three days in that month respectively to 3°, 8°, and 10° Fahr. The late Capt. Chawner assured me that it is seen not unfrequently at Newton, and that it has bred there. I have also seen it at Chawton.

The late Mr. Doubleday, in a paper in the first volume of the 'Magazine of Zoology and Botany' (1837), suggests that the supposed great rarity of this species was due to its extreme shyness, "exceeding that of almost any other land bird." He, however, watched them for years in Epping Forest, where they abound, and has given a very full and interesting account of their nidification and general habits. He states that their favourite food is the seed of the hornbeam, and it is not improbable that they are attracted to my premises by a remarkably fine tree of this species, which is yearly loaded with seed.—T. B.]

OBSERVATIONS

ON

QUADRUPEDS.

SHEEP.

The sheep on the downs this winter (1769) are very ragged, and their coats much torn; the shepherds say they tear their fleeces with their own mouths and horns, and they are always in that way in mild wet winters, being teased and tickled with a kind of lice.

After ewes and lambs are shorn, there is great confusion and bleating, neither the dams nor the young being able to distinguish one another as before. This embarrassment seems not so much to arise from the loss of the fleece, which may occasion an alteration in their appearance, as from the defect of that *notus odor*, discriminating each individual personally; which also is confounded by the strong scent of the pitch and tar wherewith they are newly marked; for the brute creation recognize each other more from the smell than the sight; and in matters of identity and diversity appeal much more to their noses than their eyes. After sheep have been washed there is the same confusion, from the reason given above. White.

RABBITS.

Rabbits make incomparably the finest turf, for they not only bite closer than larger quadrupeds, but they allow no bents to rise; hence warrens produce much the most delicate turf for gardens. Sheep never touch the stalks of grasses. White.

CAT AND SQUIRRELS.

A boy has taken three little young squirrels in their nest, or drey as it is called in these parts. These small creatures he put under the care of a cat who had lately lost her kittens, and finds that she nurses and suckles them with the same assiduity and affection, as if they were her own offspring. This circumstance corroborates my suspicion, that the mention of exposed and deserted children being nurtured by female beasts of prey who had lost their young, may not be so improbable an incident as many have supposed; and therefore may be a justification of those authors who have gravely mentioned, what some have deemed to be a wild and improbable story.

So many people went to see the little squirrels suckled by a cat, that the foster mother became jealous of her charge, and in pain for their safety; and therefore hid them over the ceiling, where one died. This circumstance shews her affection for these fondlings, and that she supposes the squirrels to be her own young. Thus hens, when they have hatched ducklings, are equally attached to them as if they were her own chickens. WHITE.

HORSE.

An old hunting mare, which ran on the common, being taken very ill, ran down into the village, as it were, to implore the help of men, and died the night following in the street.

WHITE.

HOUNDS.

The king's stag-hounds came down to Alton, attended by a huntsman and six yeomen prickers, with horns, to try for the

stag that has haunted Hartley Wood for so long a time. Many hundreds of people, horse and foot, attended the dogs to see the deer unharboured; but though the huntsman drew Hartley Wood, and Long Coppice, and Shrubwood, and Temple Hangers, and in their way back Hartley and Ward le ham Hangers, yet no stag could be found.

The royal pack, accustomed to have the deer turned out before them, never drew the coverts with any address and spirit, as many people that were present observed; and this remark the event has proved to be a true one. For as a person was lately pursuing a pheasant that was wing-broken in Hartley Wood, he stumbled upon the stag by accident, and ran in upon him as he lay concealed amidst a thick brake of brambles and bushes. WHITE.

[STOAT.

The stoat or ermine, *Mustela erminea*, is not unfrequently found at Selborne in severe winters, partially changed to the white condition which it assumes wholly in northern climates, where it furnishes the valuable ermine fur. Several pied specimens have been brought to me; and an intelligent labourer, whose habits of life formerly gave him greater opportunity of observing the *ferœ naturâ* than would be strictly legal, assures me that he has repeatedly seen the stoat in its white dress. I find the following statement in my notes, dated February 1870:—"The woodcutters on Selborne Hill told me that they have lately seen many stoats in the wood, and not one which was not more or less marked with white." It would be interesting to ascertain how far south this change has been observed. Mr. Couch states that he has seen it in Cornwall (see Brit. Quad. 2nd ed. p. 196). T. B.]

OBSERVATIONS

ON

INSECTS AND VERMES.

INSECTS IN GENERAL.

The day and night insects occupy the annuals alternately: the papilios, muscæ, and apes, are succeeded at the close of day by phalænæ, earwigs, woodlice, &c. In the dusk of the evening, when beetles begin to buz, partridges begin to call; these two circumstances are exactly coincident.

Ivy is the last flower that supports the hymenopterous and dipterous insects. On sunny days quite on to November they swarm on trees covered with this plant; and when they disappear, probably retire under the shelter of its leaves, concealing themselves between its fibres and the trees which it entwines.

White.

This I have often observed, having seen bees and other winged insects swarming about the flowers of the ivy, very late in the autumn. Markwick.

Spiders, woodlice, lepismæ in cupboards and among sugar, some empedes, gnats, flies of several species, some phalænæ in hedges, earth-worms, &c. are stirring at all times when winters are mild; and are of great service to those soft-billed birds that never leave us.

On every sunny day the winter through, clouds of insects usually called gnats (I suppose tipulæ and empedes) appear sporting and dancing over the tops of the ever-green trees in the shrubbery, and frisking about as if the business of gene-

ration was still going on. Hence it appears that these diptera (which by their sizes appear to be of different species) are not subject to a torpid state in the winter, as most winged insects are. At night, and in frosty weather, and when it rains and blows, they seem to retire into those trees. They often are out in a fog. WHITE.

This I have also seen, and have frequently observed swarms of little winged insects playing up and down in the air in the middle of winter, even when the ground has been covered with snow. MARKWICK.

HUMMING IN THE AIR.

There is a natural occurrence to be met with upon the highest part of our down in hot summer days, which always amuses me much, without giving me any satisfaction with respect to the cause of it; and that is a loud audible humming of bees in the air, though not one insect is to be seen. This sound is to be heard distinctly the whole common through, from the Money-dells, to Mr. White's avenue gate. Any person would suppose that a large swarm of bees was in motion, and playing about over his head. This noise was heard last week, on June 28th.

"Resounds the living surface of the ground,
"Nor undelightful is the ceaseless *hum*
"To him who muses ———— at noon."
"Thick in yon stream of light a thousand ways,
"Upward and downward, thwarting and convolv'd,
"The quivering nations sport." THOMSON'S SEASONS.

WHITE.

CHAFFERS.

Cockchaffers seldom abound oftener than once in three or four years; when they swarm, they deface the trees and hedges. Whole woods of oaks are stripped bare by them.

Chaffers are eaten by the turkey, the rook, and the house-sparrow.

The *scarabæus solstitialis* first appears about June 26: they are very punctual in their coming out every year. They are a small species, about half the size of the May-chaffer, and are known in some parts by the name of the fern-chaffer. WHITE.

A singular circumstance relative to the cockchaffer, or as it is called here the May-bug, *scarabæus melolontha*, happened this year (1800):—My gardener in digging some ground found, about six inches under the surface, two of these insects alive and perfectly formed so early as the 24th of March. When he brought them to me, they appeared to be as perfect and as much alive as in the midst of summer, crawling about as briskly as ever: yet I saw no more of this insect till the 22d of May, when it began to make its appearance. How comes it, that though it was perfectly formed so early as the 24th of March, it did not shew itself above ground till nearly two months afterwards? MARKWICK.

PTINUS PECTINICORNIS.

Those maggots that make worm-holes in tables, chairs, bed-posts, &c. and destroy wooden furniture, especially where there is any sap, are the larvæ of the *ptinus pectinicornis*. This insect, it is probable, deposits its eggs on the surface, and the worms eat their way in.

In their holes they turn into their pupæ state, and so come forth winged in July: eating their way through the valances or curtains of a bed, or any other furniture that happens to obstruct their passage.

They seem to be most inclined to breed in beech; hence beech will not make lasting utensils, or furniture. If their eggs are deposited on the surface, frequent rubbing will preserve wooden furniture. WHITE.

BLATTA ORIENTALIS. COCKROACH.

A neighbour complained to me that her house was over-run with a kind of black beetle, or as she expressed herself, with a kind of black-bob, which swarmed in her kitchen when they got up in a morning before day-break.

Soon after this account, I observed an unusual insect in one of my dark chimney closets, and find since, that in the night they swarm also in my kitchen. On examination, I soon ascertained the species to be the *blatta orientalis* of Linnæus, and the *blatta molendinaria* of Mouffet. The male is winged; the female is not, but shows somewhat like the rudiments of wings, as if in the pupa state.

These insects belonged originally to the warmer parts of America, and were conveyed from thence by shipping to the East Indies; and by means of commerce begin to prevail in the more northern parts of Europe, as Russia, Sweden, &c. How long they have abounded in England I cannot say; but have never observed them in my house till lately.

They love warmth, and haunt chimney-closets, and the backs of ovens. Poda says that these and house-crickets will not associate together; but he is mistaken in that assertion, as Linnæus suspected he was. They are altogether night insects, *lucifugæ*, never coming forth till the rooms are dark and still, and escaping away nimbly at the approach of a candle. Their antennæ are remarkably long, slender, and flexile.

October 1790. After the servants are gone to bed, the kitchen hearth swarms with young crickets, and young *blattæ molendinariæ* of all sizes, from the most minute growth to their full proportions. They seem to live in a friendly manner together, and not to prey the one on the other.

August 1792. After the destruction of many thousands of *blattæ molendinariæ*, we find that at intervals a fresh detachment of old ones arrives, and particularly during this hot

season: for the windows being left open in the evenings, the males come flying in at the casements from the neighbouring houses, which swarm with them. How the females, that seem to have no perfect wings that they can use, can contrive to get from house to house, does not so readily appear. These, like many insects, when they find their present abodes over-stocked, have powers of migrating to fresh quarters. Since the *blattæ* have been so much kept under, the crickets have greatly increased in number. WHITE.

GRYLLUS DOMESTICUS.—HOUSE CRICKET.

November. After the servants are gone to bed, the kitchen hearth swarms with minute crickets not so large as fleas, which must have been lately hatched. So that these domestic insects, cherished by the influence of a constant large fire, regard not the season of the year, but produce their young at a time when their congeners are either dead, or laid up for the winter, to pass away the uncomfortable months in the profoundest slumbers, and a state of torpidity.

When house-crickets are out, and running about in a room in the night, if surprised by a candle, they give two or three shrill notes, as it were for a signal to their fellows, that they may escape to their crannies and lurking holes, to avoid danger. WHITE.

CIMEX LINEARIS.

August 12, 1775. *Cimices lineares* are now in high copulation on ponds and pools. The females, who vastly exceed the males in bulk, dart and shoot along on the surface of the water with the males on their backs. When a female chooses to be disengaged, she rears, and jumps, and plunges, like an unruly colt; the lover thus dismounted, soon finds a new mate. The females, as fast as their curiosities are satisfied, retire to another part of the lake, perhaps to deposit their

fœtus in quiet; hence the sexes are found separate, except where generation is going on. From the multitude of minute young of all gradations of sizes, these insects seem without doubt to be viviparous. WHITE.

PHALÆNA QUERCUS.

Most of our oaks are naked of leaves, and even the Holt in general, having been ravaged by the caterpillars of a small *phalæna* which is of a pale yellow colour. These insects, though a feeble race, yet, from their infinite numbers, are of wonderful effect, being able to destroy the foliage of whole forests and districts. At this season they leave their *aureliæ*, and issue forth in their fly-state, swarming and covering the trees and hedges.

In a field at Greatham, I saw a flight of swifts busied in catching their prey near the ground; and found they were hawking after these *phalænæ*. The *aurelia* of this moth is shining and as black as jet; and lies wrapped up in a leaf of the tree, which is rolled round it, and secured at the ends by a web, to prevent the maggot from falling out. WHITE.

I suspect that the insect here meant is not the *phalæna quercus*, but the *phalæna viridata*, concerning which, I find the following note in my Naturalist's Calendar for the year 1785.

About this time, and for a few days last past, I observed the leaves of almost all the oak-trees in Denn copse to be eaten and destroyed, and, on examining more narrowly, saw an infinite number of small beautiful pale green moths flying about the trees; the leaves of which that were not quite destroyed were curled up, and withinside were the *exuviæ* or remains of the *chrysalis*, from whence I suppose the moths had issued, and whose caterpillar had eaten the leaves. MARKWICK.

EPHEMERA CAUDA BISETA. MAY FLY.

June 10, 1771. Myriads of May flies appear for the first time on the Alresford stream. The air was crowded with them, and the surface of the water covered. Large trouts sucked them in as they lay struggling on the surface of the stream, unable to rise till their wings were dried.

This appearance reconciled me in some measure to the wonderful account that Scopoli gives of the quantities emerging from the rivers of Carniola. Their motions are very peculiar, up and down for many yards almost in a perpendicular line. WHITE.

I once saw a swarm of these insects playing up and down over the surface of a pond in Denn park, exactly in the manner described by this accurate naturalist. It was late in the evening of a warm summer's day when I observed them. MARKWICK.

SPHYNX OCELLATA.*

A vast insect appears after it is dusk, flying with a humming noise, and inserting its tongue into the bloom of the honeysuckle; it scarcely settles upon the plants, but feeds on the wing in the manner of humming birds. WHITE.

I have frequently seen the large bee moth, *sphinx stellatarum*, inserting its long tongue or proboscis into the centre of flowers, and feeding on their nectar, without settling on them, but keeping constantly on the wing. MARKWICK.

WILD BEE.

There is a sort of wild bee frequenting the garden-campion for the sake of its tomentum, which probably it turns to some

* [Two very distinct species of the Sphingidæ are here mentioned—the first the eyed hawkmoth, *Smerinthus ocellatus*; the second the humming-bird hawkmoth, *Macroglossa stellatarum*.—T.B.]

purpose in the business of nidification. It is very pleasant to see with what address it strips off the pubes, running from the top to the bottom of a branch, and shaving it bare with all the dexterity of a hoop-shaver. When it has got a vast bundle, almost as large as itself, it flies away, holding it secure between its chin and its fore legs.

There is a remarkable hill on the downs near Lewes in Sussex, known by the name of Mount Carburn, which overlooks that town, and affords a most engaging prospect of all the country round, besides several views of the sea. On the very summit of this exalted promontory, and amidst the trenches of its Danish camp, there haunts a species of wild bee, making its nest in the chalky soil. When people approach the place, these insects begin to be alarmed, and, with a sharp and hostile sound, dash and strike round the heads and faces of intruders. I have often been interrupted myself while contemplating the grandeur of the scenery around me, and have thought myself in danger of being stung. WHITE.

WASPS.

Wasps abound in woody wild districts far from neighbourhoods; they feed on flowers, and catch flies and caterpillars to carry to their young. Wasps make their nests with the raspings of sound timber; hornets, with what they gnaw from decayed: these particles of wood are kneaded up with a mixture of saliva from their bodies, and moulded into combs.

When there is no fruit in the gardens, wasps eat flies, and suck the honey from flowers, from ivy blossoms, and umbellated plants: they carry off also flesh from butchers shambles. WHITE.

In the year 1775 wasps abounded so prodigiously in this neighbourhood, that, in the month of August, no less than seven or eight of their nests were ploughed up in one field; of which there were several instances, as I was informed.

In the spring, about the beginning of April, a single wasp

is sometimes seen, which is of a larger size than usual; this I imagine is the queen or female wasp, the mother of the future swarm. MARKWICK.

OESTRUS CURVICAUDA.

This insect lays its nits or eggs on horses' legs, flanks, &c. each on a single hair. The maggots when hatched do not enter the horses' skins, but fall to the ground. It seems to abound most in moist, moorish places, though sometimes seen in the uplands. WHITE.

NOSE FLY.

About the beginning of July, a species of fly *(musca)* obtains, which proves very tormenting to horses, trying still to enter their nostrils and ears, and actually laying their eggs in the latter of those organs, or perhaps in both. When these abound, horses in woodland districts become very impatient at their work, continually tossing their heads, and rubbing their noses on each other, regardless of the driver, so that accidents often ensue. In the heat of the day, men are often obliged to desist from ploughing. Saddle-horses are also very troublesome at such seasons. Country people call this insect the nose fly. WHITE.

Is not this insect the *oestrus nasalis* of Linnæus, so well described by Mr. Clark in the third volume of the Linnæan Transactions, under the name of *oestrus veterinus?* MARKWICK.

ICHNEUMON FLY.

I saw lately a small ichneumon fly attack a spider much larger than itself on a grass walk. When the spider made

any resistance, the ichneumon applied her tail to him, and stung him with great vehemence, so that he soon became dead and motionless. The ichneumon then running backward drew her prey very nimbly over the walk into the standing grass. This spider would be deposited in some hole where the ichneumon would lay some eggs; and as soon as the eggs were hatched, the carcase would afford ready food for the maggots.

Perhaps some eggs might be injected into the body of the spider, in the act of stinging. Some ichneumons deposit their eggs in the aurelia of moths and butterflies. WHITE.

In my Naturalist's Calendar for 1795, July 21st, I find the following note:

It is not uncommon for some of the species of ichneumon flies to deposit their eggs in the chrysalis of a butterfly: some time ago I put two of the chrysalis of a butterfly into a box and covered it with gauze, to discover what species of butterfly they would produce; but instead of a butterfly, one of them produced a number of small ichneumon flies.

There are many instances of the great service these little insects are to mankind in reducing the number of noxious insects, by depositing their eggs in the soft bodies of their *larvæ;* but none more remarkable than that of the ichneumon of *tipula,* which pierces the tender body and deposits its eggs in the *larva* of the *tipula tritici,* an insect which, when it abounds greatly, is very prejudicial to the grains of wheat. This operation I have frequently seen it perform with wonder and delight. MARKWICK.

BOMBYLIUS MEDIUS.

The *bombylius medius* is much about in March and the beginning of April, and soon seems to retire. It is an hairy insect, like an humble-bee, but with only two wings, and a long straight beak, with which it sucks the early flowers. The female seems to lay its eggs as it poises on its wings, by

striking its tail on the ground, and against the grass that stands in its way, in a quick manner, for several times together. WHITE.

I have often seen this insect fly with great velocity, stop on a sudden, hang in the air in a stationary position for some time, and then fly off again; but do not recollect having ever seen it strike its tail against the ground, or any other substance. MARKWICK.

MUSCÆ.—FLIES.

In the decline of the year, when mornings and evenings become chilly, many species of flies *(muscæ)* retire into houses, and swarm in the windows.

At first they are very brisk and alert; but as they grow more torpid, one cannot help observing that they move with difficulty, and are scarce able to lift their legs, which seem as if glued to the glass; and by degrees many do actually stick on till they die in the place.

It has been observed that divers flies, besides their sharp hooked nails, have also skinny palms, or flaps to their feet, whereby they are enabled to stick on glass and other smooth bodies, and to walk on ceilings with their backs downward, by means of the pressure of the atmosphere on those flaps; the weight of which they easily overcome in warm weather when they are brisk and alert. But in the decline of the year, this resistance becomes too mighty for their diminished strength; and we see flies labouring along, and lugging their feet in windows as if they stuck fast to the glass, and it is with the utmost difficulty they can draw one foot after another, and disengage their hollow caps from the slippery surface.

Upon the same principle that flies stick and support themselves, do boys, by way of play, carry heavy weights by only a piece of wet leather at the end of a string clapped close on the surface of a stone. WHITE.

TIPULÆ, OR EMPEDES.

May. Millions of *empedes*, or *tipulæ*, come forth at the close of day, and swarm to such a degree as to fill the air. At this juncture they sport and copulate; as it grows more dark they retire. All day they hide in the hedges. As they rise in a cloud they appear like smoke.

I do not ever remember to have seen such swarms, except in the fens of the Isle of Ely. They appear most over grass grounds. WHITE.

APHIDES.

On the 1st of August, about half an hour after three in the afternoon, the people of Selborne were surprized by a shower of Aphides which fell in these parts. They who were walking the streets at that time found themselves covered with these insects, which settled also on the trees and gardens, and blackened all the vegetables where they alighted. These armies, no doubt, were then in a state of emigration, and shifting their quarters; and might perhaps come from the great hop-plantations of Kent or Sussex, the wind being that day at North. They were observed at the same time at Farnham, and all along the vale to Alton. WHITE.

ANTS.

August 23. Every ant-hill about this time is in a strange hurry and confusion; and all the winged ants, agitated by some violent impulse, are leaving their homes, and, bent on emigration, swarm by myriads in the air, to the great emolument of the hirundines, which fare luxuriously. Those that escape the swallows return no more to their nests, but looking out for fresh settlements, lay a foundation for future colonies.

All the females at this time are pregnant: the males that escape being eaten, wander away and die.

October 2. Flying ants, male and female, usually swarm and migrate on hot sunny days in August and September; but this day a vast emigration took place in my garden, and myriads came forth, in appearance from the drain which goes under the fruit wall; filling the air and the adjoining trees and shrubs with their numbers. The females were full of eggs. This late swarming is probably owing to the backward, wet season. The day following, not one flying ant was to be seen *.

Horse-ants travel home to their nests laden with flies, which they have caught, and the aureliæ of smaller ants, which they seize by violence. WHITE.

In my Naturalist's Calendar for the year 1777, on September 6th, I find the following note to the article Flying Ants.

I saw a prodigious swarm of these ants flying about the top of some tall elm-trees (close by my house); some were continually dropping to the ground as if from the trees, and others rising up from the ground: many of them were joined together in copulation; and I imagine their life is but short, for as soon as produced from the egg by the heat of the sun, they propagate their species, and soon after perish. They were black, somewhat like the small black ant, and had four wings. I saw also, at another place, a large sort which were yellowish. On the 8th of September, 1785, I again observed the same circumstance of a vast number of these insects flying near the tops of the elms and dropping to the ground.

* [Had our author exercised his usual careful and continuous observation, he would have found the cause of the absence of winged ants on the day after he had seen their swarms on the ground. Had he watched them for a very short time after they at first settled from their emigration, he would have seen every one of them, turning its head round, seize on one wing after another with its jaws, and, with a half-rotatory jerk, pluck it neatly off. Thus the ground becomes strewed with these no longer required appendages. It is a busy scene, and one which I have watched with much pleasure and amusement. The self-mutilated insects have now become stationary, and proceed forthwith to found their new colony.—T. B.]

On the 2d of March, 1777, I saw great numbers of ants come out of the ground. MARKWICK.

GLOW-WORMS.

By observing two glow-worms which were brought from the field to the bank in the garden, it appeared to us, that these little creatures put out their lamps between eleven and twelve, and shine no more for the rest of the night.

Male glow-worms, attracted by the light of the candles, come into the parlour. WHITE.

EARTH-WORMS.

Earth-worms make their casts most in mild weather about March and April; they do not lie torpid in winter, but come forth when there is no frost; they travel about in rainy nights, as appears from their sinuous tracks on the soft muddy soil, perhaps in search of food.

When earth-worms lie out a-nights on the turf, though they extend their bodies a great way, they do not quite leave their holes, but keep the ends of their tails fixed therein, so that on the least alarm they can retire with precipitation under the earth. Whatever food falls within their reach when thus extended, they seem to be content with, such as blades of grass, straws, fallen leaves, the ends of which they often draw into their holes; even in copulation their hinder parts never quit their holes; so that no two, except they lie within reach of each other's bodies, can have any commerce of that kind; but as every individual is an hermaphrodite, there is no difficulty in meeting with a mate, as would be the case were they of different sexes. WHITE.

SNAILS AND SLUGS.

The shell-less snails called slugs are in motion all the winter in mild weather, and commit great depredations on garden plants, and much injure the green wheat, the loss of which is imputed to earth-worms; while the shelled snail, the φερεοικος, does not come forth at all till about April 10th, and not only lays itself up pretty early in autumn, in places secure from frost, but also throws out round the mouth of its shell a thick operculum formed from its own saliva; so that it is perfectly secured, and corked up as it were, from all inclemencies. The cause why the slugs are able to endure the cold so much better than shell-snails is, that their bodies are covered with slime as whales are with blubber.

Snails copulate about Midsummer; and soon after deposit their eggs in the mould by running their heads and bodies under ground. Hence the way to be rid of them is to kill as many as possible before they begin to breed.

Large, grey, shell-less cellar snails lay themselves up about the same time with those that live abroad; hence it is plain that a defect of warmth is not the only cause that influences their retreat. WHITE.

SNAKES SLOUGH.

——There the snake throws her enamelled skin.
Shakspeare, Mids. Night's Dream.

About the middle of this month (September) we found in a field near a hedge the slough of a large snake, which seemed to have been newly cast. From circumstances it appeared as if turned wrong side outward, and as drawn off backward, like a stocking or woman's glove. Not only the whole skin, but scales from the very eyes, are peeled off, and appear in the

head of the slough like a pair of spectacles. The reptile, at the time of changing his coat, had entangled himself intricately in the grass and weeds, so that the friction of the stalks and blades might promote this curious shifting of the exuviæ.

——————"Lubrica serpens
"Exuit in spinis vestem. *Lucret.*

It would be a most entertaining sight could a person be an eye-witness to such a feat, and see the snake in the act of changing his garment. As the convexity of the scales of the eyes in the slough is now inward, that circumstance alone is a proof that the skin has been turned: not to mention that now the present inside is much darker than the outer. If you look through the scales of the snake's eyes from the concave side, viz. as the reptile used them, they lessen objects much. Thus it appears from what has been said, that snakes crawl out of the mouth of their own sloughs, and quit the tail part last, just as eels are skinned by a cook maid. While the scales of the eyes are growing loose, and a new skin is forming, the creature, in appearance, must be blind, and feel itself in an awkward uneasy situation. WHITE.

I have seen many sloughs or skins of snakes entire, after they have cast them off; and once in particular I remember to have found one of these sloughs so intricately interwoven amongst some brakes that it was with difficulty removed without being broken: this undoubtedly was done by the creature to assist in getting rid of its incumbrance.

I have great reason to suppose that the eft or common lizard also casts its skin or slough, but not entire like the snake; for on the 30th of March, 1777, I saw one with something ragged hanging to it, which appeared to be part of its old skin. MARKWICK.

OBSERVATIONS

ON

VEGETABLES.

TREES, ORDER OF LOSING THEIR LEAVES.

One of the first trees that becomes naked is the walnut; the mulberry, the ash, especially if it bears many keys, and the horse-chestnut come next. All lopped trees, while their heads are young, carry their leaves a long while. Apple-trees and peaches remain green very late, often till the end of November: young beeches never cast their leaves till spring, till the new leaves sprout and push them off: in the autumn the beechen-leaves turn of a deep chestnut colour. Tall beeches cast their leaves about the end of October. White.

SIZE AND GROWTH.

Mr. Marsham of Stratton, near Norwich, informs me by letter thus *: "I became a planter early; so that an oak which I planted in 1720 is become now, at 1 foot from the earth, 12 feet 6 inches in circumference, and at 14 feet (the half of the timber length) is 8 feet 2 inches. So if the bark was to be measured as timber, the tree gives 116½ feet, buyer's measure. Perhaps you never heard of a larger oak while the planter was living. I flatter myself that I increased the growth by washing the stem, and digging a circle as far as I supposed

* [It will be seen, on comparing this passage with the original in the first letter in the "Marsham and White correspondence" in the Second Volume, that it is very incorrectly quoted.—T. B.]

the roots to extend, and by spreading sawdust, &c. as related in the Phil. Trans. I wish I had begun with beeches (my favourite trees as well as yours,) I might then have seen very large trees of my own raising. But I did not begin with beech till 1741, and then by seed; so that my largest is now at five feet from the ground, 6 feet 3 inches in girth, and with its head spreads a circle of 20 yards diameter. This tree was also dug round, washed, &c." *Stratton*, 24 *July*, 1790.

The circumference of trees planted by myself at 1 foot from the ground (1790.)*

		feet.	inches.
Oak in	1730	4	5
Ash	1730	4	6½
Great fir	1751	5	0
Greatest beech	1751	4	0
Elm	1750	5	3
Lime	1756	5	5

* [Of the six trees mentioned in the text, I am able with certainty to identify five; and it appeared to me that it would be interesting to give their present dimensions (October 1876). I have taken the circumference of the trunk at 3 feet from the ground. The elm has been injured by the wind, so that its height cannot be given with certainty. The oak exhibits signs of decay; the rest are in perfect health and beauty.

	When planted.	Girth at 3 feet. ft.	in.	Height. ft.
Oak	1730	8	5	54
Ash	1730	8	8	85
Great fir (spruce)	1751	8	2	92
Greatest beech	1751	11	9	90
Elm	1750	10	9	

In the year 1790 the infant son of the Rev. Edmund White, vicar of Newton Valence, was brought down to his uncle's premises; and an Abele sapling being placed in his little hand, he was made to plant it in the presence of his uncle and others of the family. This tree has always been known as the "Yalden tree," after the christian name of the baby planter, who became the Rev. Yalden White, and who died curate of the parish of Crondal. It is now 8 feet 8 inches in girth at 3 feet, and 90 feet high. There are several other trees which, although not recorded as having been planted by Gilbert White, may very probably have owed their existence to him. It is known that he was in the habit of carrying beech-mast in his pocket, and distributing the seeds in hedgerows and

The great oak in the Holt, which is deemed by Mr. Marsham to be the biggest in this island, at 7 feet from the ground, measures in circumference 34 feet. It has in old times lost several of its boughs, and is tending to decay. Mr. Marsham computes, that at 14 feet length this oak contains 1000 feet of timber.

It has been the received opinion that trees grow in height only by their annual upper shoot. But my neighbour over the way, whose occupation confines him to one spot, assures me that trees are expanded and raised in the lower parts also. The reason that he gives is this: the point of one of my firs began for the first time to peep over an opposite roof at the beginning of summer; but before the growing season was over, the whole shoot of the year, and three or four joints of the body beside, became visible to him as he sits on his form in his shop. According to this supposition, a tree may advance in height considerably, though the summer shoot should be destroyed every year. WHITE.

FLOWING OF SAP.

If the bough of a vine is cut late in the spring, just before the shoots push out, it will bleed considerably; but after the leaf is out, any part may be taken off without the least inconvenience. So oaks may be barked while the leaf is budding; but as soon as they are expanded, the bark will no longer part from the wood, because the sap that lubricates the bark and makes it part, is evaporated off through the leaves. WHITE.

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other places. There exists now a row of remarkably fine beeches, which may be the result of this custom: they have all the character of the great beech acknowledged by him; and are apparently about the same age. There are maples of remarkable size and beauty which may very possibly claim the same origin. Of the more aged trees, occupants of the same ground, which must have been objects of interest to Gilbert White, the most remarkable is the ancient Wych-elm, described in the note at page 5. An enormous pollard ash, still in full vigour, must have been a fine old tree in his time. Its girth immediately below the spreading of the branches (the narrowest part) is 16 feet; and it is 91 feet high.—T. B.]

RENOVATION OF LEAVES.

When oaks are quite stripped of their leaves by chaffers, they are clothed again soon after Midsummer with a beautiful foliage: but beeches, horse-chestnuts and maples, once defaced by those insects, never recover their beauty again for the whole season. WHITE.

ASH TREES.

Many ash trees bear loads of keys every year, others never seem to bear any at all. The prolific ones are naked of leaves and unsightly; those that are steril abound in foliage, and carry their verdure a long while, and are pleasing objects. WHITE.

BEECH.

Beeches love to grow in crowded situations, and will insinuate themselves through the thickest covert, so as to surmount it all: are therefore proper to mend thin places in tall hedges. WHITE.

SYCAMORE.

May 12. The sycamore or great maple is in bloom, and at this season makes a beautiful appearance, and affords much pabulum for bees, smelling strongly like honey. The foliage of this tree is very fine, and very ornamental to outlets. All the maples have saccharine juices. WHITE.

GALLS OF LOMBARDY POPLAR.

The stalks and ribs of the leaves of the Lombardy poplar are embossed with large tumours of an oblong shape, which

by incurious observers have been taken for the fruit of the tree. These galls are full of small insects, some of which are winged, and some not. The parent insect is of the genus of *cynips*. Some poplars in the garden are quite loaded with these excrescences*. White.

CHESTNUT TIMBER.

John Carpenter brings home some old chestnut trees which are very long; in several places the wood-peckers had begun to bore them. The timber and bark of these trees are so very like oak, as might easily deceive an indifferent observer, but the wood is very shakey, and towards the heart *cup-shakey*, (that is to say, apt to separate in round pieces like cups) so that the inward parts are of no use. They are bought for the purpose of cooperage, but must make but ordinary barrels, buckets, &c. Chestnut sells for half the price of oak; but has sometimes been sent into the king's docks, and passed off instead of oak. White.

LIME BLOSSOMS.

Dr. Chandler tells, that in the south of France, an infusion of the blossoms of the lime tree, *tilia*, is in much esteem as a remedy for coughs, hoarsenesses, fevers, &c. and that at Nismes, he saw an avenue of limes that was quite ravaged and torn in pieces by people greedily gathering the bloom, which they dried and kept for these purposes.

Upon the strength of this information we made some tea of lime blossoms, and found it a very soft, well-flavoured, pleasant, saccharine julep, in taste much resembling the juice of liquorice. White.

* [A very interesting and extensive series of papers on the subject of gall-insects has been recently published in the 'Entomologist' for the years 1875 *et seq.*—T. B.]

BLACKTHORN.

This tree usually blossoms while cold N.E. winds blow; so that the harsh rugged weather obtaining at this season, is called by the country people, blackthorn winter. WHITE.

IVY BERRIES.

Ivy berries afford a noble and providential supply for birds in winter and spring; for the first severe frost freezes and spoils all the haws, sometimes by the middle of November; ivy berries do not seem to freeze. WHITE.

HOPS.

The culture of Virgil's vines corresponded very exactly with the modern management of hops. I might instance in the perpetual diggings and hoeings, in the tying to the stakes and poles, in pruning the superfluous shoots, &c. but lately I have observed a new circumstance, which was a neighbouring farmer's harrowing between the rows of hops with a small triangular harrow, drawn by one horse, and guided by two handles. This occurrence brought to my mind the following passage.

——————"ipsa
"Flectere luctantes inter vineta juvencos." *Georgic* II.

Hops are diécious plants: hence perhaps it might be proper, though not practised, to leave purposely some male plants in every garden, that their farina might impregnate the blossoms*. The female plants without their male attendants are not in their natural state: hence we may suppose the frequent failure of crop so incident to hop-grounds; no other

* [This is, I believe, now the general practice. The suggestion is one among many instances of Gilbert White's remarkable acuteness of observation.—T. B.]

growth, cultivated by man, has such frequent and general failures as hops.

Two hop gardens much injured by a hail-storm, June 5, shew now (September 2) a prodigious crop, and larger and fairer hops than any in the parish. The owners seem now to be convinced that the hail, by beating off the tops of the binds, has increased the side-shoots, and improved the crop. Query. Therefore should not the tops of hops be pinched off when the binds are very gross, and strong? WHITE.

SEED LYING DORMANT.

The naked part of the Hanger is now covered with thistles of various kinds. The seeds of these thistles may have lain probably under the thick shade of the beeches for many years, but could not vegetate till the sun and air were admitted. When old beech trees are cleared away, the naked ground in a year or two becomes covered with strawberry plants, the seeds of which must have lain in the ground for an age at least. One of the *slidders* or trenches down the middle of the Hanger, close covered over with lofty beeches near a century old, is still called *strawberry slidder*, though no strawberries have grown there in the memory of man. That sort of fruit did once, no doubt, abound there, and will again when the obstruction is removed. WHITE.

BEANS SOWN BY BIRDS.

Many horse-beans sprang up in my field-walks in the autumn, and are now grown to a considerable height. As the Ewel was in beans last summer, it is most likely that these seeds came from thence; but then the distance is too considerable for them to have been conveyed by mice. It is most probable therefore that they were brought by birds, and in particular by jays and pies, who seem to have hid them among the grass and moss, and then to have forgotten where

they had stowed them. Some peas are growing also in the same situation, and probably under the same circumstances. WHITE.

CUCUMBERS SET BY BEES.

If bees, who are much the best setters of cucumbers, do not happen to take kindly to the frames, the best way is to tempt them by a little honey put on the male and female bloom. When they are once induced to haunt the frames, they set all the fruit, and will hover with impatience round the lights in a morning, till the glasses are opened. *Probatum est.* WHITE.

WHEAT.

A notion has always obtained, that in England hot summers are productive of fine crops of wheat; yet in the years 1780 and 1781, though the heat was intense, the wheat was much mildewed, and the crop light. Does not severe heat, while the straw is milky, occasion its juices to exsude, which being extravasated, occasion spots, discolour the stems and blades, and injure the health of the plants? WHITE.

TRUFFLES.

August. A truffle-hunter called on us, having in his pocket several large truffles found in this neighbourhood. He says these roots are not to be found in deep woods, but in narrow-hedge rows and the skirts of coppices. Some truffles, he informed us, lie two feet within the earth, and some quite on the surface; the latter, he added, have little or no smell, and are not so easily discovered by the dogs as those that lie deeper. Half a crown a pound was the price which he asked for this commodity.

Truffles never abound in wet winters and springs. They are in season in different situations, at least nine months in the year. WHITE.

TREMELLA NOSTOC.

Though the weather may have been ever so dry and burning, yet after two or three wet days, this jelly-like substance abounds on the walks. WHITE.

FAIRY RINGS.

The cause, occasion, call it what you will, of *fairy-rings*, subsists in the turf, and is conveyable with it: for the turf of my garden-walks, brought from the down above, abounds with those appearances, which vary their shape, and shift situation continually, discovering themselves now in circles, now in segments, and sometimes in irregular patches and spots. Wherever they obtain, puff-balls abound; the seeds of which were doubtless brought in the turf. WHITE *.

* [So long ago as the year 1675 a paper on the subject of Fairy Rings appeared in the 'Philosophical Transactions,' by Mr. Jessop, in which he propounded the theory of the electrical origin of these curious phenomena; and in 1807 a paper was read at the Royal Society by Dr. Wollaston, on the chemical causes which were believed to produce them. At the meeting of the British Association in 1846 a communication by Professor Way took a similar view. The electrical theory was advocated by Mr. Dovaston in an article in the 'Magazine of Natural History,' vol. xiv. More recent investigations by Professor Buckman are recorded in the 'Veterinarian' for 1870; and an elaborate paper on the chemical theory, by Dr. Gilbert, will be found in the 'Journal of the Linnean Society,' Botany, vol. xv. p. 17. These, however, do not, as it appears to me, solve the difficulty of the figure and growth of the rings. Whatever may be the origin of the fungi which are always the associates of these phenomena, there can be no doubt of the fact that, as a general rule, the plan approximates more or less to a circle or the segment of a circle, that it is at the circumference that the fungi always appear, and that by some "centrifugal law," as Professor Balfour expresses it, the circle gradually extends—and that if a portion of turf infested by one of these be introduced into a lawn or other piece of grass, the interloper continues to increase and to spread in spite of every attempt to extirpate it. It appears to me that a tendency to a centrifugal development, so remarkable in many of the tribes of fungi, especially in certain species of *Agaricus*, *Boletus*, *Lycoperdon*, &c., is necessary to account for the figure and extension of fairy-rings, independent of chemical or electrical intervention, by which many of the phenomena connected with them may be modified or produced.—T. B.]

METEOROLOGICAL OBSERVATIONS.

BAROMETER.

November 22, 1768. A remarkable fall of the barometer all over the kingdom. At Selborne we had no wind, and not much rain; only vast, swagging, rock-like clouds, appeared at a distance. White.

PARTIAL FROST.

The country people, who are abroad in winter mornings long before sun-rise, talk much of hard frost in some spots, and none in others. The reason of these partial frosts is obvious, for there are at such times partial fogs about; where the fog obtains, little or no frost appears: but where the air is clear, there it freezes hard. So the frost takes place either on hill or in dale, wherever the air happens to be clearest and freest from vapour. White.

THAW.

Thaws are sometimes surprisingly quick, considering the small quantity of rain. Does not the warmth at such times come from below? The cold in still, severe seasons seems to come down from above: for the coming over of a cloud in severe nights raises the thermometer abroad at once full ten degrees. The first notices of thaws often seem to appear in vaults, cellars, &c.

If a frost happens, even when the ground is considerably dry, as soon as a thaw takes place, the paths and fields are all in a batter. Country people say that the frost draws moisture. But the true philosophy is, that the steam and vapours continually ascending from the earth, are bound in by the frost, and not suffered to escape till released by the thaw. No wonder then that the surface is all in a float; since the quantity of moisture by evaporation that arises daily from every acre of ground is astonishing. WHITE.

FROZEN SLEET.

January 20. Mr. H's man says that he caught this day, in a lane near Hackwood park, many rooks, which, attempting to fly, fell from the trees with their wings frozen together by the sleet, that froze as it fell. There were, he affirms, many dozen so disabled. WHITE.

MIST, CALLED LONDON SMOKE.

This is a blue mist which has somewhat the smell of coal smoke, and as it always comes to us with a N. E. wind, is supposed to come from London. It has a strong smell, and is supposed to occasion blights. When such mists appear they are usually followed by dry weather. WHITE.

REFLECTION OF FOG.

When people walk in a deep white fog by night with a lanthorn, if they will turn their backs to the light, they will see their shades impressed on the fog in rude gigantic proportions. This phenomenon seems not to have been attended to, but implies the great density of the meteor at that juncture. WHITE.

HONEY DEW.

June 4, 1783. Vast honey dews this week. The reason of these seem to be, that in hot days the effluvia of flowers are drawn up by a brisk evaporation, and then in the night fall down with the dews with which they are entangled.

This clammy substance is very grateful to bees, who gather it with great assiduity, but it is injurious to the trees on which it happens to fall, by stopping the pores of the leaves. The greatest quantity falls in still close weather; because winds disperse it, and copious dews dilute it, and prevent its ill effects. It falls mostly in hazy warm weather. WHITE.

MORNING CLOUDS.

After a bright night and vast dew, the sky usually becomes cloudy by eleven or twelve o'clock in the forenoon, and clear again toward the decline of the day. The reason seems to be, that the dew, drawn up by evaporation, occasions the clouds; which, towards evening, being no longer rendered buoyant by the warmth of the sun, melt away, and fall down again in dews. If clouds are watched in a still warm evening, they will be seen to melt away, and disappear. WHITE.

DRIPPING WEATHER AFTER DROUGHT.

No one that has not attended to such matters, and taken down remarks, can be aware how much ten days dripping weather will influence the growth of grass or corn after a severe dry season. This present summer, 1776, yielded a remarkable instance; for till the 30th of May the fields were burnt up and naked, and the barley not half out of the ground; but now, June 10, there is an agreeable prospect of plenty. WHITE.

AURORA BOREALIS.

November 1, 1788. The N. aurora made a particular appearance, forming itself into a broad, red, fiery belt, which extended from E. to W. across the welkin: but the moon rising at about ten o'clock, in unclouded majesty, in the E. put an end to this grand, but awful meteorous phenomenon. WHITE.

BLACK SPRING, 1771.

Dr. Johnson says, that "in 1771 the season was so severe in the island of Sky, that it is remembered by the name of the *black spring*. The snow, which seldom lies at all, covered the ground for eight weeks, many cattle died, and those that survived were so emaciated that they did not require the male at the usual season." The case was just the same with us here in the south; never were so many barren cows known as in the spring following that dreadful period. Whole dairies missed being in calf together.

At the end of March the face of the earth was naked to a surprising degree. Wheat hardly to be seen, and no signs of any grass; turnips all gone, and sheep in a starving way. All provisions rising in price. Farmers cannot sow for want of rain. WHITE.

OBSERVATIONS

ON SOME PASSAGES IN

MR. WHITE'S NATURAL HISTORY

OF

SELBORNE.

Page 8. THERE is a village in the west of England remarkable for the quantity it possesses of the "Cornu Ammonis." The name of it is Keynsham, between Bath and Bristol. 'This has given rise to a fabulous legend, which says, that St. Keyna, from whom the place takes its name, resided here in a solitary wood full of venomous serpents, and her prayers converted them into stones, which still retain their shape.' See Espriella's Letters from England, v. 3. p. 362.

P. 21. The description of the conflagration arising from the *heath-fires* here mentioned, reminds the scholar of the '*stubble-burning*' described in Virgil's Georgics, i. 84, and the commentary on the passage, by the elegant and learned Mr. Holdsworth, p. 52. Compare Virgilii Æn. 2. 304. Ovid. Epist. xv. 9. Sil. Ital. vii. 365.

P. 26. *German Boars and Sows* were also turned out by Charles the First in the New Forest, which bred and increased. Their stock is supposed to exist now, remarkable for the smallness of their hind quarters. See an engraving of one in Gilpin's Forest Scenery, ii. 118.

P. 29. The "*Black-cap*," which Mr. White calls a delicate songster, is classed very highly by Mr. D. Barrington, in his scale of singing birds. See also Pennant's Brit. Zoology, v. i. p. 374.

P. 32. The most curious account of the "*Cross-bill*," (Loxia Curvirostra) was published by Dr. Townson, who kept them tame. See his Tracts on Natural History, p. 116.

P. 35. The 'Falco Peregrinus,' sent by Mr. White to Mr. Pennant, is a rare bird. One of them was caught some years ago in Norfolk,

in a trap baited with a woodcock. Another was killed in January 1812 (this present month) in Sussex, while fighting with a raven. This falcon breeds on Glenmore, and other rocks in the Highlands. See Pennant's Scotland, v. i. p. 277.

P. 39. There certainly does exist a difficulty in conceiving how some of the Birds of Passage, such feeble and bad fliers, should be able to migrate to such a vast distance; but some of our wonder will perhaps diminish when we read the account of the manner in which the *Quail* crosses the Mediterranean, for the coast of Africa. "Towards the end of September, the Quails avail themselves of a northerly wind to take their departure from Europe, and flapping one wing, while they present the other to the gale, half sail, half oar, they graze the billows of the Mediterranean with their fattened rumps, and bury themselves in the sands of Africa, that they may serve as food to the famished inhabitants of Zara." St. Pierre's Studies of Nature, v. 1. p. 91.

P. 44. Mr. White mentions a notion among the country people in Hampshire, that there exists a species of the 'Genus Mustelinum,' reddish, not much bigger than a field-mouse, called a '*Cane*,' and distinct from the weasel, stoat, &c.* This I believe to be a pretty general error among the country people also in other counties. This imaginary animal in Suffolk is called the '*Mouse-hunt*,' from its being supposed to live on mice. To discover the truth of this report, I managed to have several of these animals brought to me; all of which I found to be the *common weasel*. The error I conceive partly to have arisen from this animal, like most others, appearing less than its real size, when running and attempting to escape, a circumstance well known to the hunters in India, with respect to larger animals, as the tiger, &c.

P. 45. Mr. White has justly remarked, 'that food has great influence on the colour of animals.' The dark colour in *wild* birds is a great safeguard to them against their enemies; and this is the reason, that among birds of bright plumage, the young do not assume their gay colours till the second or third year, as the cygnet, the gold and silver pheasants, &c. The remarkable change of plumage among the *gull* tribe, is a curious and intricate subject. Is the circumstance mentioned by Mr. Pegge true, 'that butterflies partake the colour of the flowers they feed on'? I think not. See Anonymiana, p. 469.

P. 52. Concerning the reason of frogs coming out in rainy weather, the reader will be amply gratified, by referring to the

* See note, p. 44–5.

experiments made by Dr. Townson on his two frogs, *Damon* and *Musidora*. See his Tracts, p. 50. The general result of which has proved the following curious fact:—"that frogs take in their supply of liquid through the *skin* alone, all the aqueous fluid which they take in being absorbed by the skin, and all they reject being transpired through it." One frog in an hour and half absorbed nearly its own weight of water.

P. 82. The very beautiful, one may almost say *poetical* way, in which the *male* bird procures a mate by the power of his song, may be seen in the preface to Mr. Montagu's Ornithological Dictionary, p. xxx; from which this corollary may be inferred, that if a confined bird had learned the song of *another*, without retaining any part of its *natural notes*, and was set at liberty, it is probable, it would never find a mate of its own.

P. 89. The 'bustard' is extinct in Scotland: and as it is now so scarce in England, owing to population and enclosures, it becomes interesting to remark, that two birds of this kind, (male and female) have been kept in the garden ground belonging to Norwich Infirmary, and have but lately been sold by the owner of them. The male bird was very beautiful and courageous, apparently afraid of nothing, seizing any one that came near him by the coat; yet on the appearance of any small hawk high in the air, he would squat close to the ground, expressing strong marks of fear. The female was very shy. A tolerably good resemblance of the male is in Pennant's British Zoology, v. 1, p. 284.

P. 97. Concerning swallows, the reader will see, that Mr. White appears to incline more and more in favour of their *torpidity*, and against their *migration*. Mr. D. Barrington is still more positive on the same side of the question. See his Miscellanies, p. 225. The ancients generally mention this bird, as wintering in Africa. See Anacreon, λγ. ed. Brunck. p. 38. The Rhodians had a festival called χελιδόνια, when the boys brought about young swallows; the song which they sang, may be seen in the works of Meursius. v. 3. p. 974. fol.

Ἦλθε, ἦλθε, χελιδὼν καλὰς
Ὥρας ἄγουσα, καὶ καλοὺς Ἐνιαυτοὺς
Ἐπὶ γαστέρα λευκὰ, κἄπι νῶτα μέλαινα.

"He comes! He comes! who loves to bear
"Soft sunny hours, and seasons fair;—
"The swallow hither comes to rest
"His sable wing, and snowy breast."

And alluding to this custom, Avienus, (who may be considered only as a very bad translator of an excellent poem, the Periegesis of Dionysius,) thus says, v. 705,

> "Nam cum vere novo, tellus se dura relaxat,
> Culminibusq. cavis blandum strepit ales hirundo,
> Gens devota choros agitat!"

From a passage in the 'birds' of Aristophanes, we learn, that among the Greeks, the *crane* pointed out the time of *sowing;* the arrival of the *kite,* the time of sheep-shearing; and the *swallow,* the time to put on *summer-clothes.* According to the Greek Calendar of Flora, kept by Theophrastus at Athens, the Ornithian winds blow, and the swallow comes between the 28th of February, and the 12th of March; the kite and nightingale appear between the 11th and 26th of March; the cuckoo appears at the same time the young figs come out, thence his name. See Stillingfleet's Tracts on Natural History, p. 324.

P. 122. Since this letter of Mr. White's much has been added to our knowledge of the cuckoo, by the patient attention of Dr. Jenner. Concerning the singing of the cuckoo, mentioned by Mr. White at p. 139, I will add the following curious memoranda from the 7th Volume of the Transactions of the Linnæan Society. "The cuckoo begins early in the season with the interval of a *minor third;* the bird then proceeds to a *major third,* next to a *fourth,* then a *fifth,* after which his voice breaks without attaining a *minor sixth.*" This curious circumstance was however observed very long ago; and it forms the subject of an Epigram in that scarce black-letter volume, the 'Epigrams of John Heywood, 1587.'

OF USE. 95.

> "Use maketh maistry, this hath been said alway,
> "But all is not alway, as all men do say,
> "In Aprill, the koocoo can sing her song by rote,
> "In June, of tune, she cannot sing a note:
> "At first, koo coo, koo coo sing still can she do,
> "At last kooke, kooke, kooke; six kookes, to one koo!"

P. 141. Mr. White says, it is strange that *rooks* and *starlings* accompany each other; but this is the case with other birds; the short-eared *owl* often accompanies flights of *woodcocks* to this country.

See Pennant's Scotland, i. p. 11. In Greece, the *cuckoo* migrates with the *turtle*-flocks, thence they call him trigono-kracti, or turtle-leader.

P. 143. The motion of the tortoise's legs being, as Mr. White remarks, *ridiculously slow*, is taken notice of in Homer's hymn to Hermes, v. 28.

> *βοσκομένη προπάροιθε δόμων, ἐριθήλεα ποιήν*
> *Σαυλὰ ποσὶν βαίνουσα.*
>
> "Feeding far off from man, the flowery herb,
> Slow-moving with his feet."

P. 148. Mr. White has observed, that the *owl* returns to its young with food once in *five minutes*. Mr. Montagu has observed, that the wren returns once in *two* minutes, or upon an average thirty-six times in an hour; and this continued full sixteen hours in a day, which if equally divided between eight young ones, each would receive seventy-two feeds in the day, the whole amounting to five hundred and seventy six. See Ornitholog. Dict. p. 35. To this, I will add, that the swallow never fails to return to its nest at the expiration of every second or third minute.

P. 159. Mr. White says, that no *wheatears* are taken to the *westward* of Houghton bridge, on the river Arun; it appears, however, that is not the case. See the note to Mrs. Charlotte Smith's Poems, 1807, p. 168.

P. 207. As our Saxon ancestors called the month of February 'Sprout-Cale,' so the names of many other months were equally significant; viz. *March*, Stormy month; *May*, Trimilki, the cows then being milked three times a day; *June*, dig and weed month; *September*, barley month, &c.

P. 247. What Mr. White has remarked of the *fishes of Japan* thriving in our climate, is true also of the *plants*; the trees and shrubs brought from the Japonese islands bearing our winters, and growing freely: as for instance, that beautiful tree, the 'Gingko,' now called by Dr. Smith, the *Salisburia*; and the no less beautiful and scarce 'Sophora Japonica,' the finest specimens of which trees now in England, are probably in the curious garden of John Orde, Esq., at Fulham. As I am on this subject, I will mention that the garden belonging to the palace of the Bishop of London at Fulham, the earliest receptacle of scarce and foreign trees in this country, is now almost worn out. Not above twelve of the original trees could

be found in the survey made in 1793. I remarked in 1811, that some of these were gone, but the pinaster and the ilex remain.

P. 271. To this most awful summer, of 1783, Cowper also alludes, in his Task, Book ii. p. 41.

> ....."A world that seems
> To toll the death-bell of its own decease;
> And by the voice of all the elements
> To preach the general doom."—

P. 424. Mr. White observes, that birds of prey, as hawks, feed on insects. There is reason to believe, that *insects* also form part of the food even of the *larger beasts* of prey. "Beetles, flies, worms, form part of the *lion* and *tiger's* food, as they do that of the *fox*." See Jarrold's Dissert. on Man.

P. 431*. Concerning the "hybrid pheasant," see the account by John Hunter, in the Philosophical Transact. Art. xxx. 1760. "The subject of the account is a *hen* pheasant with the feathers of the cock. The author concludes, that it is most probable that all those *hen* pheasants which are found *wild*, and have the feathers of the *cock*, were formerly perfect *hens*, but that now they are changed with age, and perhaps by certain constitutional circumstances." It appears also, that the *hen* taking the plumage of the *cock*, is not confined to the pheasant alone, it takes place also with the *pea-hen*, as may be seen in the specimen belonging to Lady Tynte, which was in the Leverian Museum. After many broods, this hen took much of the plumage of the cock, and also the fine train belonging to that bird. See also Montagu's Ornitholog. Dict. Art. Pheasant.

P. 449. The squirrel's nest is called a *drey* not only in Hampshire, but also in other counties; in Suffock it is called a *bay*. The word 'drey,' though now provincial, I have met with in some of our old writers.

P. 478. It will hardly be deemed a discredit to an observer so patient, so accurate, and so faithful, as Mr. White, to mention that his conjecture concerning the origin of *honey-dew* is erroneous; the subject has been elucidated by the observations of Mr. William Curtis, who has discovered it to be the "*excrement of the aphides*." See Transact. of the Linnæan Society, vol. vi. No. 4.

Benhall, Suffolk, 20th January, 1812. J. M.

* See note at p. 331.

SUMMARY

OF THE

WEATHER.

Measure of Rain in Inches and Hundreds.

Year.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1782.	4.64	1.93	6.54	4.57	6.34	1.75	7.09	8.28	3.72	1.93	2.51	0.91	50.26
1783.	4.43	5.54	2.16	0.88	2.84	2.82	1.45	2.24	5.52	1.71	3.01	1.10	33.71
1784.	3.18	0.77	3.82	3.92	1.52	3.65	2.40	3.88	2.51	0.39	4.70	3.06	33.80
1785.	2.84	1.80	0.30	0.17	0.60	1.39	3.80	3.21	5.94	5.21	2.27	4. 2	31.55
1786.	6.91	1.42	1.62	1.81	2.40	1.20	1.99	4.34	4.79	5. 4	4.38	——	——
1787.	0.88	3.67	4.28	0.74	2.60	1.50	6.53	0.83	1.56	5. 4	4. 9	5. 6	36.24
1788.	1.60	3.37	1.31	0.61	0.76	1.27	3.58	3.22	5.71	0. 0	0.86	0.23	22.50
1789.	4.48	4.11	2.47	1.81	4. 5	4.24	3.69	0.99	2.82	5. 4	3.67	4·62	42.—
1790.	1.99	0.49	0.45	3.64	4.38	0.13	3.24	2.30	0.66	2.10	6.95	5.94	32.27
1791.	6.73	4.64	1.59	1.13	1.33	0.91	5.56	1.73	1.73	6.49	8.16	4.93	44.93
1792.	6. 7	1.68	6.70	4.08	3.00	2.78	5.16	4.25	5.53	5.55	1.65	2.11	48.56
1793.	3.71	2.32	3.33	3.19	1.21								

SUMMARY OF THE WEATHER.

1768. Begins with a fortnight's frost and snow; rainy during February. Cold and wet spring; wet season from the beginning of June to the end of harvest. Latter end of September foggy, without rain. All October and the first part of November rainy; and thence to the end of the year alternate rains and frosts.

1769. January and February frosty and rainy, with gleams of fine weather in the intervals. To the middle of March, wind and rain. To the end of March, dry and windy. To the middle of April, stormy, with rain. To the end of June, fine weather, with rain. To the beginning of August, warm, dry weather. To the end of September, rainy with short intervals of fine weather. To the latter end of October, frosty mornings, with fine days. The next fortnight rainy; thence to the end of November dry and frosty. December, windy, with rain and intervals of frost, and the first fortnight very foggy.

1770. Frost for the first fortnight: during the 14th and 15th all the snow melted. To the end of February, mild hazy weather. The whole of March frosty, with bright weather. April, cloudy, with rain and snow. May began with summer showers, and ended with dark cold rains. June, rainy, checquered with gleams of sunshine. The first fortnight in July, dark and sultry; the latter part of the month, heavy rain. August, September, and the first fortnight in October, in general fine weather, though with frequent interruptions of rain: from the middle of October to the end of the year almost incessant rains.

1771. Severe frosts till the last week in January. To the first week in February, rain and snow: to the end of February, spring weather. To the end of the third week in April, frosty weather. To the end of the first fortnight in May,

spring weather, with copious showers. To the end of June, dry, warm weather. The first fortnight in July, warm, rainy weather. To the end of September, warm weather, but in general cloudy, with showers. October, rainy. November, frost, with intervals of fog and rain. December, in general bright, mild weather, with hoar frosts.

1772. To the end of the first week in February, frost and snow. To the end of the first fortnight in March, frost, sleet, rain and snow. To the middle of April cold rains. To the middle of May, dry weather, with cold piercing winds. To the end of the first week in June, cool showers. To the middle of August, hot dry summer weather. To the end of September, rain with storms and thunders. To December 22, rain with mild weather. December 23, the first ice. To the end of the month, cold foggy weather.

1773. The first week in January, frost; thence to the end of the month, dark rainy weather. The first fortnight in February, hard frost. To the end of the first week in March, misty, showery weather. Bright spring days to the close of the month. Frequent showers to the latter end of April. To the end of June, warm showers, with intervals of sunshine. To the end of August, dry weather, with a few days of rain. To the end of the first fortnight in November, rainy. The next four weeks, frost: and thence to the end of the year, rainy.

1774. Frost and rain to the end of the first fortnight in March: thence to the end of the month, dry weather. To the 15th of April, showers; thence to the end of April, fine spring days. During May, showers and sunshine in about an equal proportion. Dark rainy weather to the end of the 3d week in July: thence to the 24th of August, sultry, with thunder and occasional showers. To the end of the 3d week in November, rain, with frequent intervals of sunny weather. To the end of December, dark dripping fogs.

1775. To the end of the first fortnight in March, rain almost every day. To the first week in April, cold winds, with showers of rain and snow. To the end of June, warm, bright weather, with frequent showers. The first fortnight in

July, almost incessant rains. To the 26th August, sultry weather, with frequent showers. To the end of the 3d week in September, rain, with a few intervals of fine weather. To the end of the year, rain, with intervals of hoar-frost and sunshine.

1776. To January 24, dark frosty weather, with much snow. March 24, to the end of the month, foggy, with hoar-frost. To the 30th of May, dark, dry harsh weather, with cold winds. To the end of the first fortnight in July, warm, with much rain. To the end of the first week in August, hot and dry, with intervals of thunder showers. To the end of October, in general fine seasonable weather, with a considerable proportion of rain. To the end of the year, dry, frosty weather, with some days of hard rain.

1777. To the 10th of January, hard frost. To the 20th of January, foggy, with frequent showers. To the 18th of February, hard dry frost with snow. To the end of May, heavy showers, with intervals of warm dry spring days. To the 8th July, dark, with heavy rain. To the 18th July, dry warm weather. To the end of July, very heavy rains. To the 12th October, remarkably fine warm weather. To the end of the year grey mild weather, with but little rain, and still less frost.

1778. To the 13th of January, frost, with a little snow ; to the 24th January, rain : to the 30th, hard frost. To the 23d February, dark, harsh, foggy weather, with rain. To the end of the month, hard frost, with snow. To the end of the first fortnight in March, dark, harsh weather. From the first, to the end of the first fortnight in April, spring weather. To the end of the month, snow and ice. To the 11th of June, cool, with heavy showers. To the 19th July, hot, sultry, parching weather. To the end of the month, heavy showers. To the end of September, dry warm weather. To the end of the year, wet, with considerable intervals of sunshine.

1779. Frost and showers to the end of January. To 21st April, warm dry weather. To 8th May, rainy. To the 7th June, dry and warm. To the 6th July, hot weather, with frequent rain. To the 18th July, dry hot weather. To August

8, hot weather, with frequent rains. To the end of August, fine dry harvest weather. To the end of November, fine autumnal weather, with intervals of rain. To the end of the year, rain with frost and snow.

1780. To the end of January, frost. To the end of February, dark, harsh weather, with frequent intervals of frost. To the end of March, warm showery spring weather. To the end of April, dark harsh weather, with rain and frost. To the end of the first fortnight in May, mild, with rain. To the end of August, rain and fair weather in pretty equal proportions. To the end of October, fine autumnal weather, with intervals of rain. To the 24th of November, frost. To December 16, mild, dry foggy weather. To the end of the year frost and snow.

1781. To January 25, frost and snow. To the end of February, harsh and windy with rain and snow. To April 5, cold drying winds. To the end of May, mild spring weather, with a few light showers. June began with heavy rain, but thence to the end of October, dry weather, with a few flying showers. To the end of the year, open weather with frequent rains.

1782. To February 4, open mild weather. To February 22, hard frost. To the end of March, cold blowing weather, with frost and snow and rain. To May 7, cold dark rains. To the end of May, mild with incessant rains. To the end of June, warm and dry. To the end of August warm, with almost perpetual rains. The first fortnight in September mild and dry; thence to the end of the month, rain. To the end of October, mild with frequent showers. November began with hard frost, and continued throughout with alternate frost and thaw. The first part of December frosty; the latter part mild.

1783. To January 16, rainy with heavy winds. To the 24th, hard frost. To the end of the first fortnight in February, blowing, with much rain. To the end of February, stormy dripping weather. To the 9th of May, cold harsh winds (thick ice on 5th of May). To the end of August, hot weather, with frequent showers. To the 23d September,

mild, with heavy driving rains. To November 12, dry, mild weather. To the 18th December, grey soft weather, with a few showers. To the end of the year, hard frost.

1784. To February 19, hard frost, with two thaws; one the 14th January, the other 5th February. To February 28, mild wet fogs. To the 3d March, frost with ice. To March 10, sleet and snow. To April 2, snow and hard frost. To April 27, mild weather with much rain. To May 12, cold drying winds. To May 20, hot cloudless weather. To June 27, warm with frequent showers. To July 18, hot and dry. To the end of August, warm with heavy rains. To November 6, clear mild autumnal weather, except a few days of rain at the latter end of September. To the end of the year, fog, rain, and hard frost (on December 10, the therm. 1 deg. below 0).

1785. A thaw began on the 2d January, and rainy weather, with wind continued to January 28. To 15th March, very hard frost. To 21st March, mild with sprinkling showers. To April 7, hard frost. To May 17, mild windy weather, without a drop of rain. To the end of May, cold with a few showers. To June 9, mild weather, with frequent soft showers. To July 13, hot dry weather, with a few showery intervals. To July 22, heavy rain. To the end of September, warm with frequent showers. To the end of October, frequent rain. To 18th of November, dry, mild weather. (Hay-making finished November 9, and the wheat harvest November 14.) To December 23, rain. To the end of the year, hard frost.

1786. To the 7th January, frost and snow. To January 13, mild with much rain. To 21st January, deep snow. To February 11, mild with frequent rains. To 21st February, dry, with high winds. To 10th March, hard frost. To 13th April, wet, with intervals of frost. To the end of April, dry mild weather. On the 1st and 2d May, thick ice. To 10th May, heavy rain. To June 14, fine warm dry weather. From the 8th to the 11th July, heavy showers. To October 13, warm, with frequent showers. To October 19, ice. To October 24, mild pleasant weather. To November 3, frost. To December 16, rain, with a few detached days of frost. To the end of the year, frost and snow.

1787. To January 24, dark, moist, mild weather. To January 28, frost and snow. To February 16, mild showery weather. To February 28, dry, cool, weather. To March 10, stormy, with driving rain. To March 24, bright frosty weather. To the end of April, mild, with frequent rain. To May 22, fine bright weather. To the end of June, mostly warm, with frequent showers (on June 7, ice as thick as a crown piece.) To the end of July, hot and sultry, with copious rain. To the end of September, hot dry weather, with occasional showers. To November 23, mild, with light frosts and rain. To the end of November, hard frost. To December 21, still and mild, with rain. To the end of the year, frost.

1788. To January 13, mild and wet. To January 18, frost. To the end of the month, dry windy weather. To the end of February, frosty, with frequent showers. To March 14, hard frost. To the end of March, dark, harsh weather, with frequent showers. To April 4, windy, with showers. To the end of May, bright, dry, warm weather, with a few occasional showers. From June 28 to July 17, heavy rains. To August 12, hot dry weather. To the end of September, alternate showers and sunshine. To November 22, dry, cool weather. To the end of the year, hard frost.

1789. To January 13, hard frost. To the end of the month, mild, with showers. To the end of February, frequent rain, with snow-showers and heavy gales of wind. To 13th March, hard frost, with snow. To April 18, heavy rain, with frost and snow and sleet. To the end of April, dark cold weather, with frequent rains. To June 9, warm spring weather, with brisk winds and frequent showers. From June 4 to the end of July, warm, with much rain. To August 29, hot, dry, sultry weather. To September 11, mild, with frequent showers. To the end of September, fine autumnal weather, with occasional showers. To November 17, heavy rain, with violent gales of wind. To December 18, mild dry weather, with a few showers. To the end of the year, rain and wind.

1790. To January 16, mild foggy weather, with occasional rains. To January 21, frost. To January 28, dark, with

driving rains. To February 14, mild, dry weather. To February 22, hard frost. To April 5, bright cold weather, with a few showers. To April 15, dark and harsh, with a deep snow. To April 21, cold cloudy weather, with ice. To June 6, mild spring weather, with much rain. From July 3, to July 14, cool, with heavy rain. To the end of July, warm, dry weather. To August 6, cold, with wind and rain. To August 24, fine harvest weather. To September 5, strong gales, with driving showers. To November 26, mild autumnal weather, with frequent showers. To December 1, hard frost and snow. To the end of the year, rain and snow, and a few days of frost.

1791. To the end of January, mild, with heavy rains. To the end of February windy, with much rain and snow. From March to the end of June, mostly dry, especially June. March and April rather cold and frosty. May and June, hot. July, rainy. Fine harvest weather, and pretty dry, to the end of September. Wet October, and cold towards the end. Very wet and stormy in November. Much frost in December.

1792. Some hard frost in January, but mostly wet and mild. February, some hard frost and a little snow. March, wet and cold. April, great storms on the 13th, then some very warm weather. May and June, cold and dry. July, wet and cool; indifferent harvest, rather late and wet. September, windy and wet. October, showery and mild. November, dry and fine. December, mild.

POEMS.

THE
INVITATION TO SELBORNE*.

See Selborne spreads her boldest beauties round
The varied valley, and the mountain ground,
Wildly majestic! what is all the pride
Of flats, with loads of ornament supply'd?
Unpleasing, tasteless, impotent expense,
Compared with nature's rude magnificence.
Arise, my stranger, to these wild scenes haste;
The unfinish'd farm awaits your forming taste:
Plan the pavilion, airy, light and true;
Thro' the high arch call in the length'ning view;
Expand the forest sloping up the hill;
Swell to a lake the scant penurious rill;
Extend the vista, raise the castle mound
In antique taste, with turrets ivy-crown'd;
O'er the gay lawn the flow'ry shrub dispread,
Or with the blending garden mix the mead;
Bid China's pale, fantastic fence, delight,
Or with the mimic statue trap the sight.
Oft on some evening, sunny, soft and still,
The Muse shall lead thee to the beech-grown hill,
To spend in tea the cool, refreshing hour,
Where nods in air the pensile, nest-like bower;[a]
Or where the Hermit hangs the straw-clad cell,[b]
Emerging gently from the leafy dell,
By fancy plann'd; as once th' inventive maid
Met the hoar sage amid the secret shade;
Romantic spot! from whence in prospect lies
Whate'er of landscape charms our feasting eyes;
The pointed spire, the hall, the pasture-plain,
The russet fallow, or the golden grain,

* [These pleasing lines were written to his nephew, Samuel Barker, —T. B.]

[a] A kind of an arbour on the side of a hill.

[b] A grotesque building, contrived by a young gentleman, who used on occasion to appear in the character of an hermit.

The breezy lake that sheds a gleaming light,
'Till all the fading picture fail the sight.
Each to his task; all different ways retire,
Cull the dry stick; call forth the seeds of fire;
Deep fix the kettle's props, a forky row,
Or give with fanning hat the breeze to blow.
Whence is this taste, the furnish'd hall forgot,
To feast in gardens, or th' unhandy grot?
Or novelty with some new charm surprizes,
Or from our very shifts some joy arises.
Hark, while below the village-bells ring round,
Echo, sweet nymph, returns the soften'd sound;
But if gusts rise, the rushing forests roar,
Like the tide tumbling on the pebbly shore.
Adown the vale, in lone, sequester'd nook,
Where skirting woods imbrown the dimpling brook,
The ruin'd Convent lies; here wont to dwell
The lazy canon midst his cloister'd cell;[c]
While papal darkness brooded o'er the land,
Ere reformation made her glorious stand:
Still oft at eve belated shepherd swains
See the cowl'd spectre skim the folded plains.
To the high temple would my stranger go,[d]
The mountain-brow commands the woods below;
In Jewry first this order found a name,
When madding Croisades set the world in flame;
When western climes, urged on by Pope and priest,
Pour'd forth their millions o'er the deluged east;
Luxurious knights, ill suited to defy
To mortal fight Turcéstan chivalry.
Nor be the Parsonage by the muse forgot:
The partial bard admires his native spot:
Smit with its beauties, loved, as yet a child,
(Unconscious why) its scapes grotesque, and wild.
High on a mound th' exalted gardens stand,
Beneath, deep vallies scoop'd by nature's hand.

[c] The ruins of a priory, founded by Peter de Rupibus, Bishop of Winchester.

[d] The remains of a preceptory of the Knights Templars; at least it was a farm dependent upon some preceptory of that order. I find it was a preceptory, called the *preceptory of Sudington*; now called Southington.

A Cobham here, exulting in his art,
Might blend the General's with the Gardener's part;
Might fortify with all the martial trade
Of rampart, bastion, fosse, and palisade;
Might plant the mortar with wide threat'ning bore,
Or bid the mimic cannon seem to roar.
Now climb the steep, drop now your eye below,
Where round the blooming village orchards grow;
There, like a picture, lies my lowly seat,
A rural, shelter'd, unobserv'd retreat.
Me far above the rest Selbornian scenes,
The pendent forests, and the mountain-greens
Strike with delight; there spreads the distant view,
That gradual fades till sunk in misty blue:
Here nature hangs her slopy woods to sight,
Rills purl between and dart a quivering light.

SELBORNE HANGER.

A WINTER PIECE.

TO THE MISS BATTIES.

The Bard, who sang so late in blithest strain
Selbornian prospects, and the rural reign,
Now suits his plaintive pipe to sadden'd tone,
While the blank swains the changeful year bemoan.
How fall'n the glories of these fading scenes!
The dusky beech resigns his vernal greens;
The yellow maple mourns in sickly hue,
And russet woodlands crowd the dark'ning view.
Dim, clustering fogs involve the country round,
The valley, and the blended mountain-ground

Sink in confusion; but with tempest-wing
Should Boreas from his northern barrier spring,
The rushing woods with deaf'ning clamour roar,
Like the sea tumbling on the pebbly shore.
When spouting rains descend in torrent tides,
See the torn zigzag weeps its channel'd sides:
Winter exerts its rage; heavy, and slow,
From the keen east rolls on the treasur'd snow;
Sunk with its weight the bending boughs are seen,
And one bright deluge whelms the works of men.
Amidst this savage landscape, bleak and bare,
Hangs the chill hermitage in middle air;
Its haunts forsaken, and its feasts forgot,
A leaf-strown, lonely, desolated cot!
Is this the scene that late with rapture rang,
Where Delphy danc'd, and gentle Anna sang;
With fairy-step where Harriet tripp'd so late,
And on her stump reclined the musing Kitty sate?
Return, dear nymphs; prevent the purple spring,
Ere the soft nightingale essays to sing;
Ere the first swallow sweeps the fresh'ning plain,
Ere love-sick turtles breathe their amorous pain;
Let festive glee th' enliven'd village raise,
Pan's blameless reign, and patriarchal days;
With pastoral dance the smitten swain surprize,
And bring all Arcady before our eyes.
Return, blithe maidens; with you bring along
Free, native humour, all the charms of song;
The feeling heart, and unaffected ease,
Each nameless grace, and ev'ry power to please.

Nov. 1, 1763.

ON THE RAINBOW.

"Look upon the Rainbow, and praise him that made it: very beautiful is it in the brightness thereof." Eccles. xliii. 11.

On morning or on evening cloud impress'd
Bent in vast curve, the wat'ry meteor shines

Delightfully, to th' levell'd sun oppos'd:
Lovely refraction! while the vivid brede
In listed colours glows, th' unconscious swain
With vacant eye gazes on the divine
Phænomenon, gleaming o'er th' illumin'd fields,
Or runs to catch the treasure which it sheds.
Not so the sage, inspir'd with pious awe;
He hails the federal arch;[a] and looking up
Adores that God, whose fingers formed this bow
Magnificent, compassing heav'n about
With a resplendent verge. "Thou mad'st the cloud,
"Maker omnipotent, and thou the bow;
"And by that covenant graciously hast sworn
"Never to drown the world again: henceforth,
"Till time shall be no more, in ceaseless round,
"Season shall follow season; day to night,
"Summer to winter, harvest to seed time,
"Heat shall to cold in regular array
"Succeed."[b]—Heav'n-taught so sang the Hebrew bard.[c]

Feb. 13, 1783.

A HARVEST SCENE.

Wak'd by the gentle gleamings of the morn,
Soon clad, the reaper, provident of want
Hies cheerful-hearted to the ripen'd field;
Nor hastes alone; attendant by his side
His faithful wife, sole partner of his cares,
Bears on her breast the sleeping babe; behind
With steps unequal trips her infant train:
Thrice happy pair, in love and labour join'd!—
All day they ply their task; with mutual chat
Beguiling each the sultry, tedious hours:
Around them falls in rows the sever'd corn,
Or the shocks rise in regular array.
But when high noon invites to short repast
Beneath the shade of shelt'ring thorn they sit,

[a] Gen. ix. 12—17. [b] Gen. viii. 22. [c] Moses.

Divide the simple meal, and drain the cask:
The swinging cradle lulls the whimp'ring babe,
Meantime; while growling round, if at the tread
Of hasty passenger alarm'd, as of their store
Protective, stalks the cur with bristling back,
To guard the scanty scrip and russet frock.

ON THE EARLY AND LATE BLOWING OF THE VERNAL AND AUTUMNAL CROCUS.

Say, what impels amidst surrounding snow
Congeal'd the Crocus' flamy bud to grow;
Say, what retards amidst the summer's blaze
Th' autumnal bulb; till pale declining days?
The *God* of *Seasons!* whose pervading power
Controls the sun, or sheds the fleecy shower;
He bids each flower his quick'ning word obey,
Or to each lingering bloom enjoins delay.

ON THE DARK, STILL, DRY WARM WEATHER, OCCASIONALLY HAPPENING IN THE WINTER MONTHS.

Th' imprison'd winds slumber within their caves
Fast bound: the fickle vane, emblem of change,
Wavers no more, long-settling to a point.
All nature nodding seems compos'd; thick steams
From land, from flood up-drawn, dimming the day,
"Like a dark ceiling stand;" slow thro' the air
Gossamer floats, or stretch'd from blade to blade
The wavy net-work whitens all the field.
Push'd by the weightier atmosphere, up springs
The ponderous Mercury, from scale to scale
Mounting, amidst the Torricellian tube.[a]
While high in air, and pois'd upon his wings
Unseen, the soft, enamour'd wood-lark runs

[a] The Barometer.

Thro' all his maze of melody;—the brake
Loud with the black-bird's bolder note resounds.
Sooth'd by the genial warmth, the cawing rook
Anticipates the spring, selects her mate,
Haunts her tall nest-trees, and with sedulous care
Repairs her wicker eyrie, tempest torn.
The plough-man inly smiles to see upturn
His mellow glebe, best pledge of future crop:
With glee the gardener eyes his smoking beds:
E'en pining sickness feels a short relief.
The happy school-boy brings transported forth
His long-forgotten scourge, and giddy gig:
O'er the white paths he whirls the rolling hoop,
Or triumphs in the dusty fields of taw.
Not so the museful sage:—abroad he walks
Contemplative, if haply he may find
What cause controuls the tempest's rage, or whence
Amidst the savage season winter smiles.
For days, for weeks, prevails the placid calm.
At length some drops prelude a change: the sun
With ray refracted bursts the parting gloom;
When all the chequer'd sky is one bright glare.
Mutters the wind at eve: th' horizon round
With angry aspect scowls: down rush the showers,
And float the delug'd paths, and miry fields.

παιδια των 'Ροδιων χελιδονιζοντων.

THE RHODIAN CHILDREN, AS THEY GO A SWALLOWING.

The swallow! the swallow! she does with her bring
Soft seasons, and all the delights of the spring:
The swallow! the swallow! we're sure we are right,
For her back is all black, and her belly all white.
From y^r^ stores, ye good house-wives, produce, if you please,
Lumps of figs, jugs of wine, and some wheat, and some cheese;
With some hen-eggs the swallow will well be content:
Must we go then; or shall we have anything sent?

We will not allow you to do as you chuse;
To give or give not: to comply or refuse:
But will certainly take from it's hinges the door;
Or bear-off the good dame, as she sits on the floor;
She is little and light; we can manage her sure.
Open, open the door to the swallow—for we
Are playful young children, not men—you may see.

(Carol preserved by Athenæus.)

ON THE LATE ARMAMENT, 1787.

So have I seen at country fair
A sturdy swain, well warmed with ale,
Strip into buff, and stamp and swear,
With choler and resentment pale;
But finding no antagonist
Whereon to vent his high disdain,
Cool by degrees, friends interpose,
Then put on shirt and frock again.

ON A BAD ROAD, ILL MENDED.

Cramm'd up with furze, with faggots, and huge stones,
What a rough road of glass, hards, flints, and bones!
Blockheads are always busy'd in the wrong;
Mend not at all and one might get along.

A FRAGMENT OF A SATIRE.

With different years a different whimsey takes;
Mechanic Harborough[1] mends his tenants' rakes;
Dress'd in blue sleeves, and all the butcher's gear,
Burleigh[2] with glee hacks up the bleeding deer:
Leicester[3] makes leathern breeches; you must cry
How neat they fit the clean "mercurial thigh."

[1] Bennett, Earl of Harborough.
[2] John, Earl of Exeter.
[3] Thomas Coke, Earl of Leicester, see 'Chrysal.'

— — — χελιδων
Και τω θερει μεν ως λυρα ρυθμιζεται.

The swallow
Lyre-like attunes the sultry summer hours:
When chilling winter comes, she torpid feels,
And fabricates her house amidst a tree,
Envelop'd warm within the hollow stem:
Moulting she there puts off her feathery garb;
Yet still again renews her youthful coat,
As when the dead arise from out the tomb;
For spring again brings round her resurrection:
She twitters much, and chats the whole day long;
If birds may be allow'd the powers of speech.
O man, learn to revere the resurrection,
When twittering swallows rise as from their tomb.

Φιλον μεν φεγγος ηλιου τοδε.
Καλον δε ποντου χευμ' ιδειν ευηνεμον,
Γη τ' ηρινον θαλλουσα, πλουσιον θ' υδωρ,
Πολλων τ' επαινον εστι μοι λεξαι καλων·
Αλλ' ουδεν ουτω λαμπρον, ουδ' ιδειν καλον,
Ως τοις απαισι και ποθω δεδηγμενοις,
Παιδων νεογνων εν δομοις ιδειν φαος.

Danae of Euripides.

Sweet is the splendor of the morning sun;
And sweet to see the gently heaving main;
Sweet is the vernal face of hill or dale;
And sweet th' effect of fertilizing stream:
But far more cheering, far more lovely scene,
Is to the childless man, wrung with desire,
The sight of new-born children in his house.

END OF VOL. I.

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